MINISTRY OF HIGHER AND SECONDARY SPECIALIZED EDUCATION OF THE REPUBLIC OF UZBEKISTAN

ANDIJAN STATE UNIVERSITY

FACULTY OF FIZICS AND MATHEMATICS

DEPARTMENT OF INFORMATION TECHNOLOGY

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Computer graphics and Web design

(curriculum)

Knowledge field :	100 000	–	Humanitarian
Education field:	110 000	–	Pedagogy
Education area:	5110700	–	Teaching methods of Computer Science

Andijan–2014

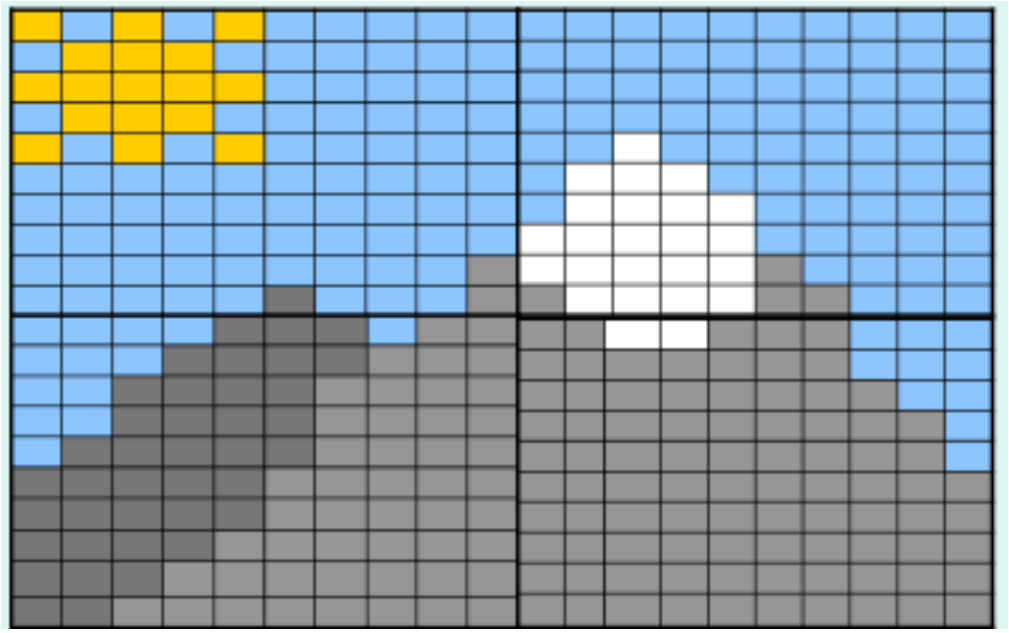
LESSON 1. Computer Graphics

- "Computer graphics refers to using a computer to create or manipulate any kind of picture, image, or diagram."
- Typically you manipulate an image on your computer with a graphics editing program
  - MS Paint
  - Adobe Photoshop
  - GIMP
  - Etc.

Bitmapped Graphics.

- There are two basic types of graphics:
  - Bitmapped and
  - Vector
- Bitmapped graphics are much more common
- Often they are called raster graphics
- When you create a bitmapped graphic you are basically creating a bunch of colored dots.
- The bitmapped graphic is stored as an array of dots, or pixels
- Each pixel gets assigned a specific color
- The more pixels you have, the more detailed the image can be
  - Imagine only have one pixel, all you get is a dot
- Some common bitmap graphics programs are:
  - Photoshop
  - Paint Shop Pro
  - GIMP
  - Photo-Paint
  - Graphic Converter
- These are paint programs.

Exaggerated Example of a Bitmap Image



Vector Graphics

- The second major type of computer graphics
- Vector graphics are created and manipulated using *drawing programs* (as opposed to paint programs for bitmapped graphics)
- Instead of using pixels to describe the image, it describes the image using shapes
  - Circles
  - Lines
  - Curves
- Also has to store the color of these shapes
- A verbal example would be something like:
  - "A yellow circle with a center here and a radius of x, a purple line from here to here"

Bitmap vs. Vector Images.

- Bitmap and vector images are obviously different
- Both have strengths and weaknesses

- They don’t manipulate images in the same way
- They don’t store images in the same way
- The images are edited differently.

Common File Formats

Bitmap Formats

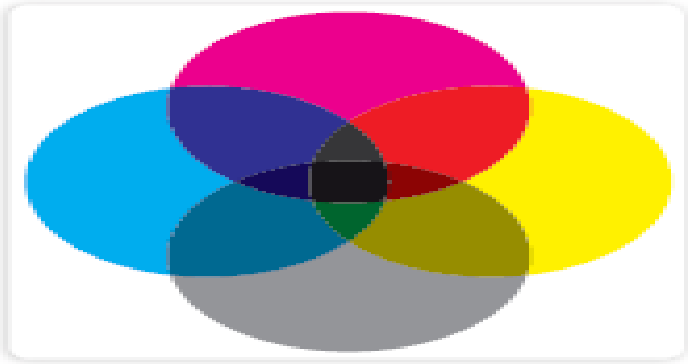
- GIF: graphics interchange format
- JPEG: joint photographic experts group
- PNG: portable network graphic
- BMP: Windows bitmap
- TIFF: tagged image file format
- Common File Formats

Vector Formats

- SVG : scalable vector graphics
- EPS: encapsulated postscript
- CMX: Corel meta exchange
- PICT: Macintosh Picture
- WMF: Windows metafile

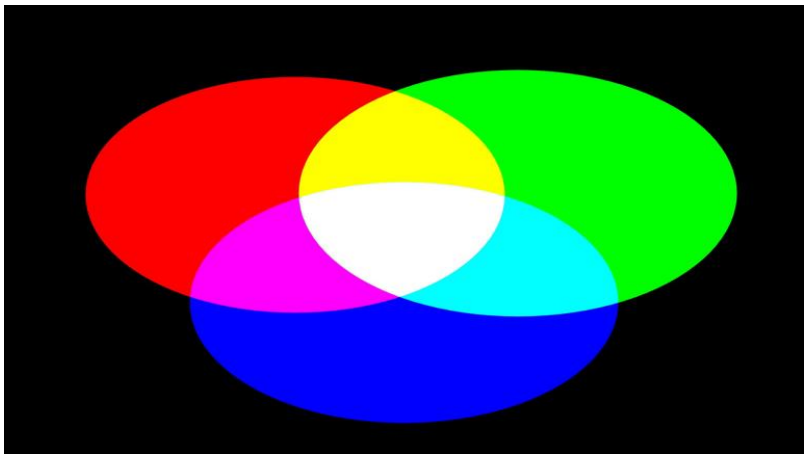
Colour Gamut Differences

With RGB colours the graphics are made up from Red, Green and Blue, with CMYK the colours are made up from Cyan, Magenta, Yellow and Black.



CMYK colours

are subtractive meaning the starting canvas
is white and colours are added to block out
parts of the spectrum.



RGB colours
are additive meaning that the starting point
is a black canvas (i.e. a computer screen) and
colours are added to create the final image.
ROUTE

Why Print files need to be CMYK

The RGB colour spectrum is much larger than the CMYK spectrum. i.e. there are colours tha
can b
created in RGB that are not available CMYK. This problem is most apparent with very bright
colour
such as a fluorescent orange or green. Commercial presses print onto white paper using
CMYK colours, in order to get the best results files should be prepared with this in mind.
Below shows examples of filessubmitted in RGB colour that have been automatically
converted into CMYK before printing.

RGB

CMYK

RGB

CMYK

Converting files to CMYK before submitting them to print will avoid any surprises with colour when the final product is produced.

Converting RGB files to CMYK and re-balancing colour
Using software such as photoshop is possible to readjust the colour balance after conversion to more
closely match the intended colour output. If using RGB elements i.e. images in the design stage it is
worth converting the elements into CMYK and rebalancing the colours during the design process.

RGB - Original image to be used. (Notice the vibrancy of the blues)

CMYK - Colours are converted straight to CMYK

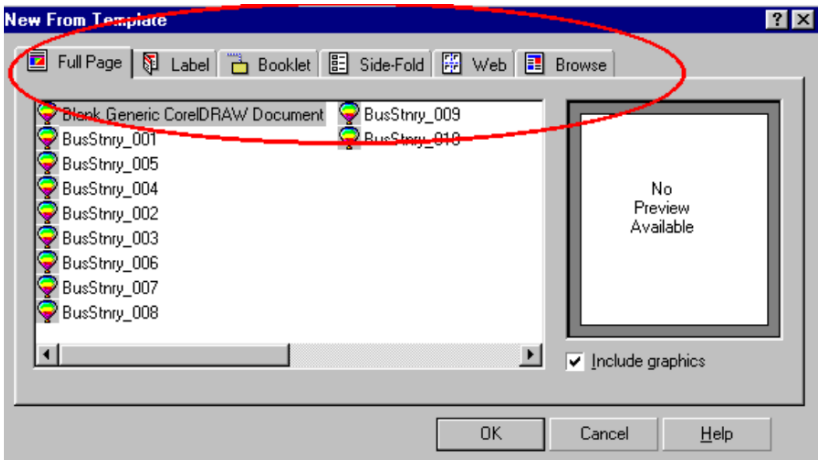
CMYK - Colour levels are adjusted to match in photoshop.

LESSON 2. **Using Corel Draw File**

How to Start and Open a Drawing

To Start and Open a Drawing

At the beginning, you can start a new Corel Draw 10 drawing in a blank page. A blank page allows you to specify every aspect of a drawing in the Corel Draw 10 software.



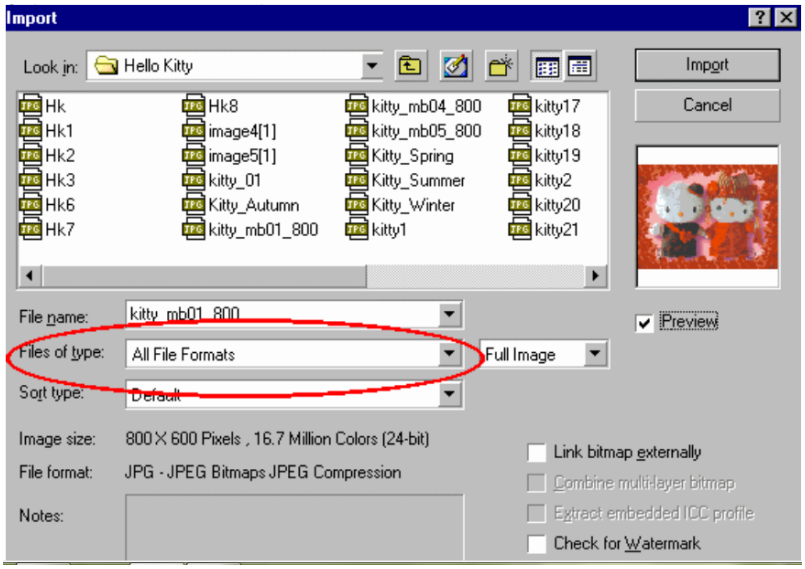
The available templates included the following categories:

- Full page
- Label
- Booklet
- Side-fold
- Web
- Browse

How to Import a File

To Import a File

Below is the Import utility of Corel Draw. Select a File Name and File Type to impor file. Most graphic files are allowed to import, such as files in the formats of BMP, GIF JPEG, TIFF, etc.

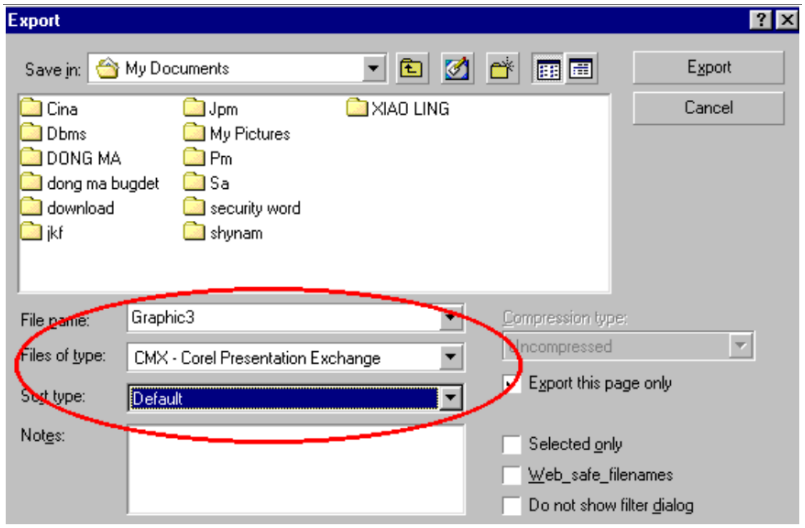


You are allowed to import files that have been created in other graphics applications.

How to Export a File

To Export a File

Below is the Export utility of Corel Draw. Select a File Name and File Type to export your Corel Draw file for usage in other graphics applications. You can export your files to the formats of CMX, BMP, GIF, JPEG, TIFF, etc.



You can export a file to a selected file format, such as CMX, JPG, GIF…. In addition, you can also export a file by saving the opened file under a different file name.

How to Edit Merge Fields to Print

To Edit Merge Fields to Print

Step 1

- First of all, you have to click on the File tab from the menu bar and select Print Merge, followed by Edit Merge Fields.

Step 2

- Follow the instructions in the Print Merge Wizard to edit Merge Fields.

How to Perform a Merge to Print

To Perform a Merge to Print

Step 1

- At the beginning, you will need to select the File tab from the menu bar and choose PrintMerge. After that click Perform Merge.

Step 2

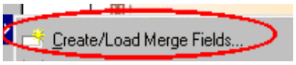
- Then specify the printer settings in your computer.

Step 3

- Finally, click on the Print button.

How to Create Merge Fields

To Create Merge Fields



Step 1

- You have to click on the File tab from the menu bar and choose Print Merge followed by Create Merge Fields.

Step 2

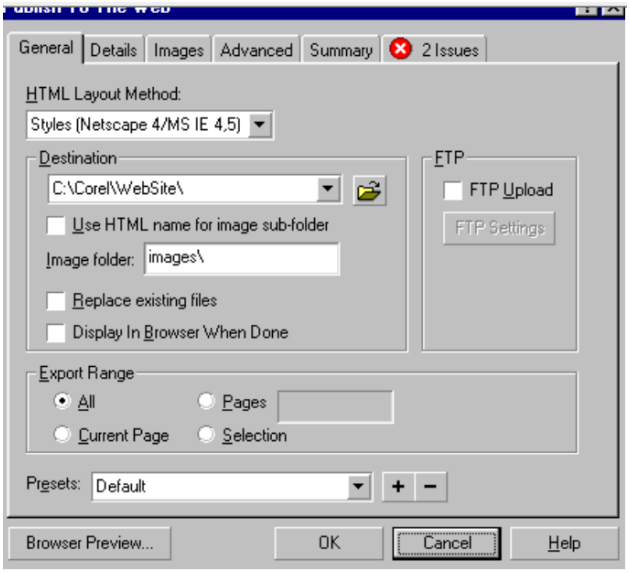
- After that follow the instructions in the Print Merge Wizard to create Merge Fields.

How to Publish in the Web

To Publish in the Web

To publish the Corel Draw files and objects to HTML, you can set the document elements to be Web-compatible.

Select the settings that you want, and check the pre-flight issues.



How to Save a Document as a PDF file

To Save a Document as a PDF file

Step 1

- At the beginning, you will need to select the File tab from the menu bar and select Publish to PDF a shown as the picture above.

Step 2

- Choose one selection from the PDF style list box.

Step 3

- After that click the drive and folder where you want to save the PDF file to.

Step 4

- Finally, type a filename for this file.

How to Access to the Drawing

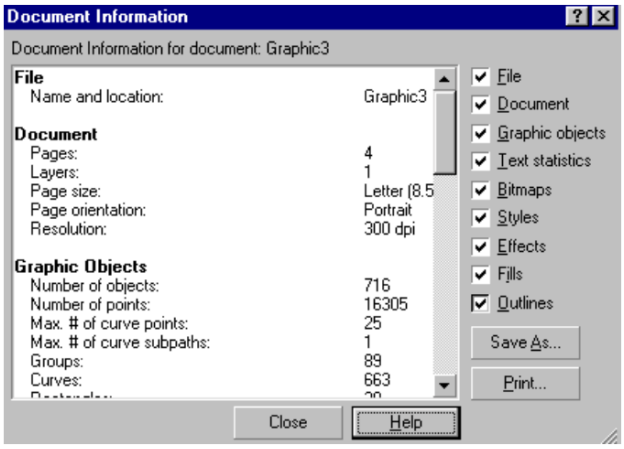
Information

To Access to the Drawing Information

You can access to the drawing information, such as File name and location, Number of pages,layers, page size in a drawing, resolution, number of objects, number of points.. etc as shown as

the image above. You will be able to save or print the Drawing Information.

Click on 'Close' button if you want to close the Information window.



LESSON 3. **Working Corel Draw Pages**

How to Duplicate an Object

To Duplicate an Object

Step 1

- First of all, you have to select an object that you want to duplicate or make a second copy.

Step 2

- Click Edit tab from the menu bar and choose Duplicate a shown as the picture above.

Step 3

- This will duplicate the selected object in the drawing.

How to Clone an Object

To Clone an Object

You can create a copy of an object that is linked to the original object. All changes to the original object will be reflected automatically in the clone.

Step 1

!"At the beginning, you have to select an object that you want to clone.

Step 2

!"Then select Edit tab from the menu bar and choose Duplicate.

How to Insert an Embedded Object

To Insert an Embedded Object

Step 1

!"Click on the Edit tab from the menu bar and choose Insert Internet Object followed by Embedded file.

Step 2

!"You have to enable the Create option from the File option.

Step 3

!"Then click on the Browse button.

Step 4

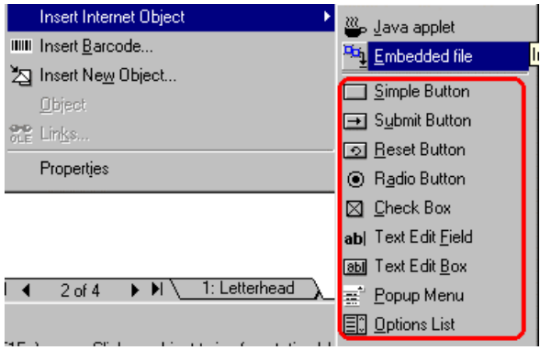
!"Type in a filename.

Step 5

!"Then, click Insert button to insert the object.

How to Create Web-enabled Objects

To Create Web-enabled Objects



You can create web-enabled objects for viewing optima in browsers, such as:

Simple Button

Submit Button

Reset Button

Radio Button

Check Box

Text Edit Field

Text Edit Box

Popup Menu

Options List

However, you can also convert text to a Web compatible format so that it can be edited in a browser.

How to Create Bar Codes

To Create Bar Codes

You can create a bar codes by using the Barcode Wizard Encodes as shown as the image below.

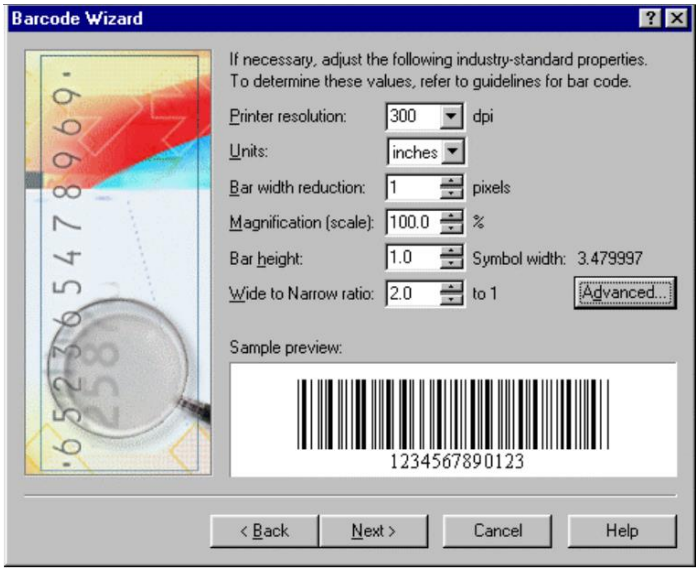
Step 1

!"Click on the Edit tab from the menu bar and choose Insert Bar Code.

!"After that choose a bar code format from the standard formats list box.

Step 2.

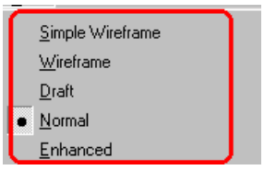
!"Type in the characters that you want to encode in the text box and click Next.



How to View in Different Modes

To View in Different Modes

You will need to select the View tab and click one of the following modes:

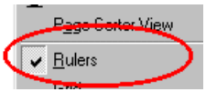


Simple wire-frame displays an outline of the drawing by hiding fills, extrusions, contours, dropshadows, and intermediate blend shapes. ‘Normal’ displays a drawing that contains high-resolution bitmapped images.

How to Work with Rulers

To Work with Rulers

The rulers let you measure the size and position of the objects in your drawing.



Check on the ‘Rulers’ to display the size and position of the object for a precise drawing.

How to Work with Grid

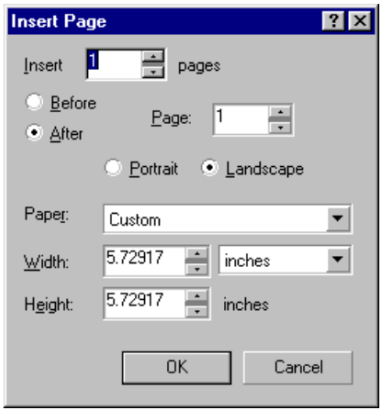
To Work with Grid

You have to click on the View tab from the menu bar and select Grid as shown in the image below.

The grid is a series of intersecting dashed lines or dots, which you can use to precisely align and position objects in the drawing window.

How to Add a Page

To Add a Page



Step 1

!"At the beginning, you have to click on the Layout tab from the menu bar and choose Insert page.

Step 2

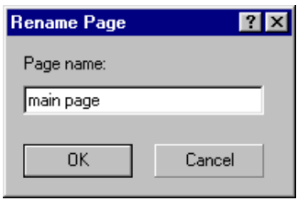
!"Key in the number of pages that you want to insert as shown as the image above.

Step 3

!"This will add new page(s) to the current drawing.

How to Rename a Page

To Rename a Page



Step 1

!"You will need to select the Layout tab from the menu bar and select Rename page.

Step 2

!"Type in the name of the page that you want to give.

Step 3

!"This will rename the page in the current drawing.

How to Delete a Page

To Delete a Page

Step 1

!"First of all, you have to click on the Layout tab from the menu bar and select Delete Page.

Step 2

!"Then, type the number of the page that you want to delete.

Step 3

!"This will delete the selected page from the current drawing.

How to Re-arrange the Order of Pages

To Re-arrange the Order of Pages

Step 1

!"Click on the View tab from the menu bar and choose Page Sorter View.

Step 2

!"After that click and drag a page to its new location.

Step 3

!"This will re-arrange the pages in order inside the current drawing.

How to Zoom in and out of a Drawing

To Zoom in and out of a Drawing

Step 1

!"You can work with this zooming option by opening the Zoom fly-out, or click the Zoomtool.

Step 2

!"You can zoom in (look nearer) the drawing by double-clicking on the drawing.

Step 3

!"Right click on the mouse button to zoom out (look farther away) from the drawing.

How to Pane in the Drawing Window

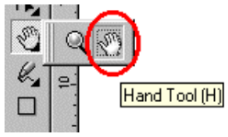
To Pane in the Drawing Window

Step 1

!"At the beginning, you have to click on the Hand tool at the zoom fly-out.

Step 2

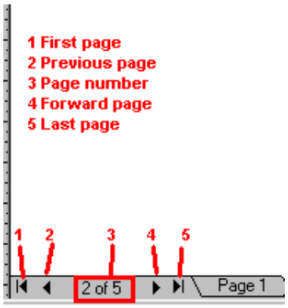
!"Drag in the drawing window until the location you want the area to be displayed.



How to Go to a Specific Page in the

Drawing

To Go to a Specific Page in the Drawing



You can go to a specific page in the drawing by clicking on one of the following buttons:

1. First page - moves to the first page
2. Back one - moves back one page
3. Page number - display the current page number of total pages
4. Forward one - moves forward one page
5. Last page - moves to the last page

How to Preview the Selected Objects

To Preview the Selected Objects

Step 1

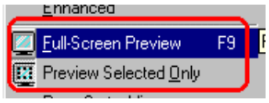
!"First of all, you have to click on the objects that you want to preview.

Step 2

!"Then, click on the View tab from the menu bar and choose Preview Selected Only.

Step 3

!"Then click on the View tab from the menu bar and choose Full-Screen Preview asshown as the image below.



How to Specify the Preview Mode

To Specify the Preview Mode

Step 1

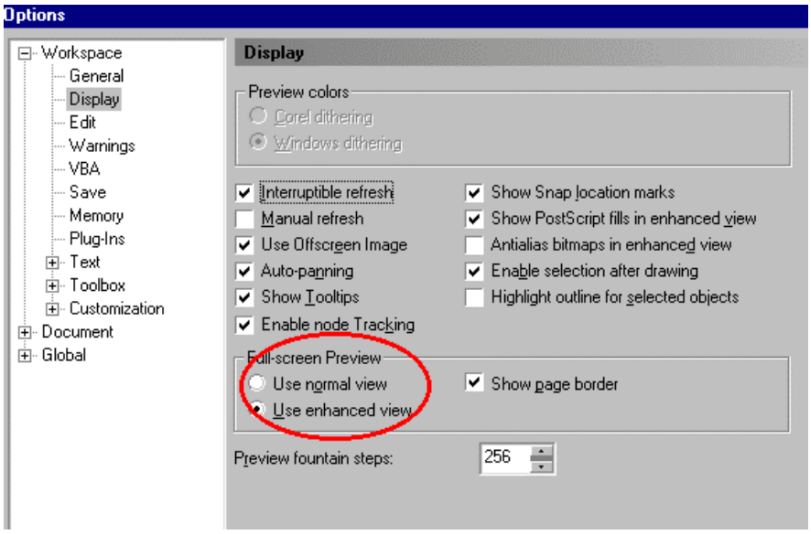
!"At the beginning, you have to click on the Tools tab from the menu bar and choose Options.

Step 2

!"After that double-click on the Workspace and Display.

Step 3

!"Finally, you have to enable the normal view or enhanced view.



How to View the Facing Pages

To View the Facing Pages

Step 1

!"First, you will need to select the Layout menu followed by Page Setup in the menu.

Step 2

!"Then, click Layout in the list of categories.

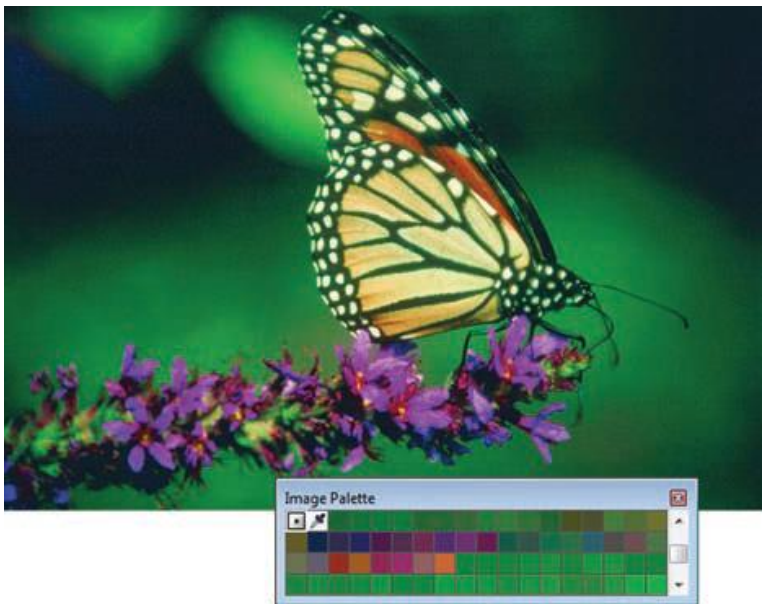
Step 3

!"Choose Left side-starts the document on a left-facing page, or Right side-starts thedocument on a right-facing page

LESSON 4. **Use color with certainty**

CorelDRAW Graphics Suite X10 makes it easierthan ever to achieve accurate color representationevery step of the way. Whether you're importinga client's mock-up, working with previousdesigns, or sending a project to a print shop or manufacturing facility, you can be certain thatyour colors are true.

Document/Image palettes: With bothCorelDRAWX10 acustom color palette i automatically created onthe fly for each design project. The palette issaved with the file, which gives you quick accessto this project's colors in the future.



A custom color palette is created on the fly for each project.

Default Color Management Settingsdialog box: For CorelDRAW Graphics Suite X10,the color management engine has beencompletely redesigned. The new Default ColorManagement Settings dialog box lets you setdefault color profiles, policies, and renderingintents for each application. This new approachhelps you easily achieve accurate colorrepresentation while also providing greatercontrol for more advanced users.

CorelDRAW Graphics Suite X10 features a completely redesigned color management engine.

Give it a try

Exploring the default color managementsettings

1 In CorelDRAW X10, click Tools □ ColorManagement □ Default Settings.

2 In the Default Color ManagementSettings dialog box, note the Description section.

As you point to each control, new informationabout that control is provided.

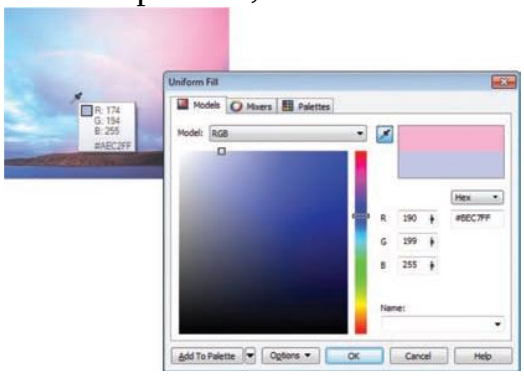
Document Color Settings dialogbox: With the introduction of the DocumentColor Settings dialog box, you can adjust colorsettings that apply only to the current document.These document-specific settings override thedefault application settings while you are workingon that file.

Primary Color Mode setting: Whilecontinuing to support RGB, CMYK, and grayscaleobjects within the same document, CorelDRAWX10 provides a new Primary Color Mode setting,which governs the default color mode on exportand the default palette colors (RGB or CMYK).

Color Proof Settings:All color proof settings are grouped within asingle docker, which lets you save presets andprepare artwork for various output devices moreefficiently. The docker helps you save time byproviding a list of output devices which you canchoose from to preview the output. Whenseeking approval from clients, you can easilyexport soft proofs and print hard proofs from thedocker.

You can now proof colors as you go.

Color sampling options: The additionof the Eyedropper tool to various color dialogboxes lets you conveniently sample and matchcolors from a document without closing thedialog box. The Eyedropper tool is also available
on color palettes, as well as in color pickers onthe property bar.



You can now sample color from within certain dialog boxes.

Enhanced! Application of sampled color:When you sample color with the Eyedropper toolin CorelDRAW X10, the Apply Color mode isautomatically activated so that you canimmediately apply the sampled color to another
object. You can also drag a color directly fromone object to another.

You can now apply color immediately after sampling.

Give it a try

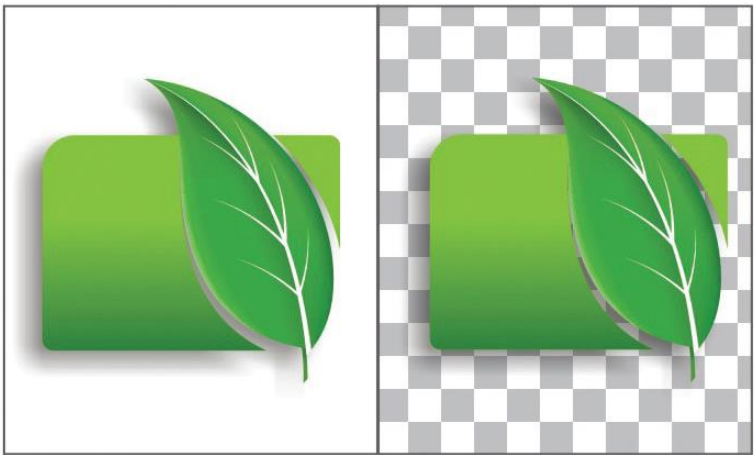
Applying sampled color
1 In CorelDRAW X5, click File Open.
2 Browse to the Press Materials Reviewer'sGuide Sample Files folder and double-clickthe filename leaf - apply color.cdr.
3 In the toolbox, click the Color Eyedroppertool.
4 Click anywhere on the leaf to select a color.Note how the new tooltip includes the colorvalues for the color that you're hovering over.
5 Click another object to apply the sampled color.

Enhanced! Hex color values: The suite nowprovides multiple options for viewing hexadecimal (hex) color values and lets youchoose colors by using their hex value. Webdesigners often specify colors in standard hexformat, which ensures consistent colorrepresentation. With CorelDRAW X5, you canview hex values in the Uniform Fill dialog box, inthe Eyedropper tooltip, in the Color docker, and on the status bar. With Corel PHOTO-PAINT X5,hex values appear in the Eyedropper tooltip, inthe Info docker, and on the status bar.

Output with ease

With its industry-leading file format compatibility,CorelDRAW Graphics Suite X5 provides theflexibility today's designers need for outputtingtheir work. The same design may be needed forWeb banners, printed ads or brochures, and T-shirts, billboards, or digital signs.

***New!* Collect for Output option:** The newCollect for Output option helps you gather fonts,color profiles, and other file information, makingit easier to share your work with a print serviceprovider.
Enhanced! Web graphics: The suite nowprovides optimization filters that produce consistent, high-quality Web output. In addition,more comprehensive transparency controls letyou easily manipulate transparency on the fly.



You can fine-tune your Web output while previewing the changes in real time.

LESSON 5. Working With Various Shapes

How to Draw a Calligraphic Line

To Draw a Calligraphic Line

Step 1

!"You have to click on the Artistic Media tool at the Curve fly-out.

Step 2

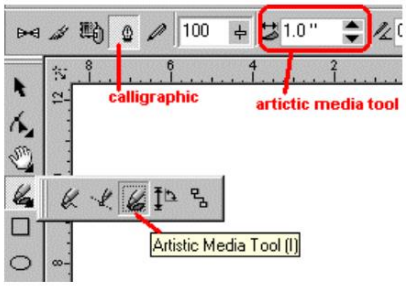
!"Then, click the Calligraphic button on the property bar.

Step 3

!"Type in the values in the Calligraphic angle box.

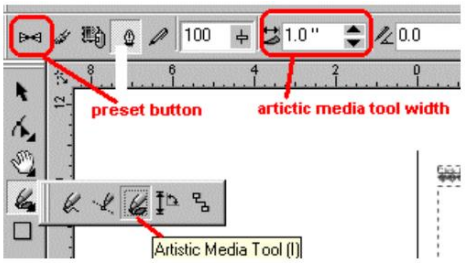
Step 4

!"Drag until the line to the shape that you satisfied.



How to Draw a Preset Line

To Draw a Preset Line



Step 1

!"At the beginning, you have to click on the Artistic Media tool at the Curve fly-out.

Step 2

!"Then, click on the Preset button on the property bar.

Step 3

!"Choose a preset line shape from the Preset stroke list list box.

Step 4

!"Drag the line to the shape that you want.

How to Draw a Pressure-Sensitive Line

To Draw a Pressure-Sensitive Line

Step 1

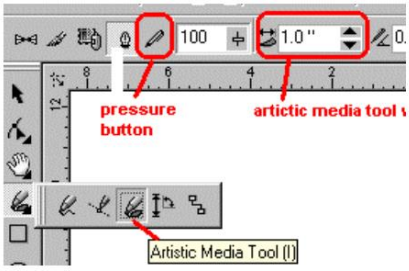
!"At the beginning, you will need to select the Artistic Media Tool again at the Curve fly-out.

Step 2

!"Then, click Pressure button on the property bar.

Step 3

!"After that drag until the line to the shape that you want.



How to Draw a Straight Line

To Draw a Straight Line

!"You have to click on the Freehand tool at the Curve fly-out and click the location whereyou want to start the line.

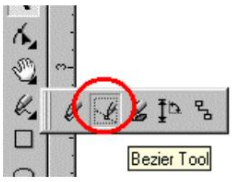
!"Finally, click where you want to end it.

How to Draw a Straight Bezier Lines

To Draw a Straight Bezier Lines

!"Open the Curve fly-out, and click on the Bezier tool a shown as the picture below.

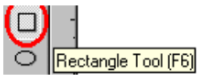
!"Clicks where you want to start the line, and click where you want to change the direction,then press space bar to finish the line.



How to Draw a Rectangle

To Draw a Rectangle

!"To do so, click the Rectangle tool, and drag in the drawing window until it becomes therectangle that you want.



How to Round the Corners of a Rectangle

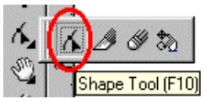
To Round the Corners of a Rectangle

Step 1

!"You have to click on the Shape tool at the Shape fly-out a shown as the picture below.

Step 2

!"Then, click a rectangle and drag a corner node along the outline of the shape.

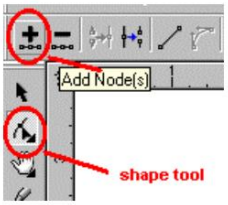


How to Draw an Arc

To Draw an Arc

!"First of all, you have to click on the Shape tool at the Shape fly-out.

!"Click the node of the ellipse or circle, and drag outside the shape's perimeter.



How to Draw an Ellipse

To Draw an Ellipse

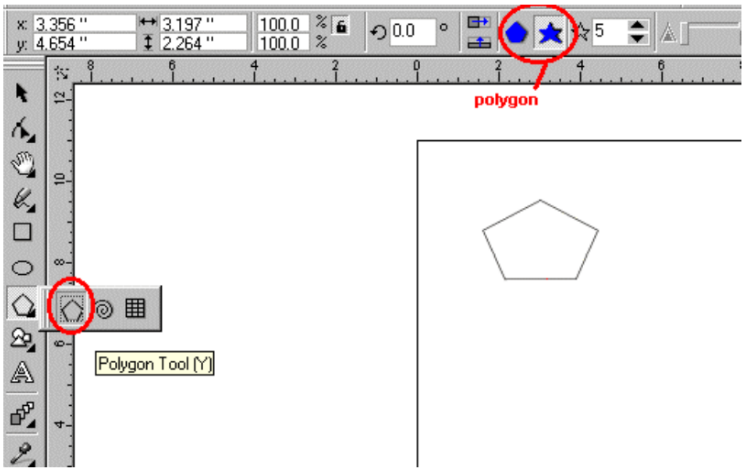
!"First, you will need to select the Ellipse tool, and drag in the drawing window until the

ellipse becomes to the shape that you want.

How to Draw Polygon

To Draw Polygon

!"Click the Polygon tool at the Object fly-out, and drag in the drawing window until thepolygon become the size that you want. This is shown at the image below.

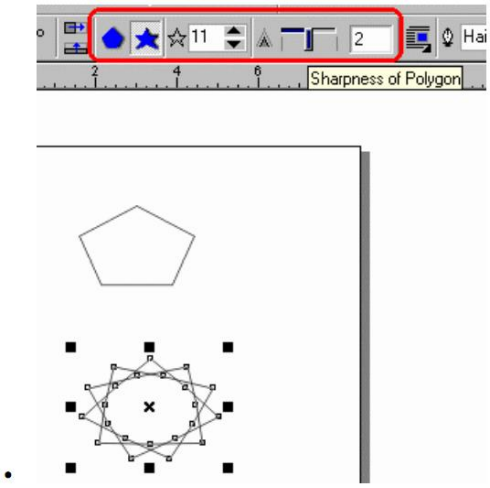


How to Reshape a Polygon

To Reshape a Polygon

!"To do so, you ought to change the number of sides of a polygon or number of points on a star.

!"Select a polygon and type in a value in the Number of points on the field as shown below:



How to Draw a Spiral

To Draw a Spiral

Step 1

!"At the beginning, you have to click on the Spiral tool at the Object fly-out.

Step 2

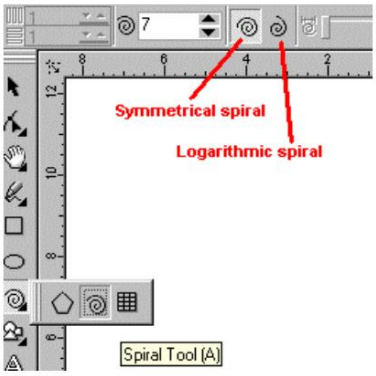
!"Then, type in the values in the Spiral revolutions box on the property bar.

Step 3

!"On the property bar, click Symmetrical Spiral or Logarithmic Spiral buttons.

Step 4

!"Drag diagonally in the drawing window until the spiral becomes the required size.



How to Draw a Grid

To Draw a Grid

Step 1

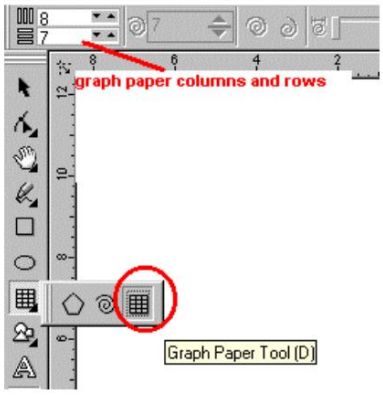
!"To draw a Grid, click on the Graph Paper tool at the Object fly-out.

Step 2

!"After that type in the values in the top and bottom portions of the graph paper columnsand rows as shown as the image.

Step 3

!"Then, position the cursor where you want the grid to appear and drag diagonally.



How to Add Text to a Pre-defined

Form To Add Text to a Pre-defined Form

Step 1

!"To add text, you have to click on the Text tool.

Step 2

!"Then, position the cursor inside the shape's outline until it changes to a Text cursor box.

Step 3

!"Finally, type the format of the font inside the shape.

How to Change Pre-defined Shape by using its Glyphs

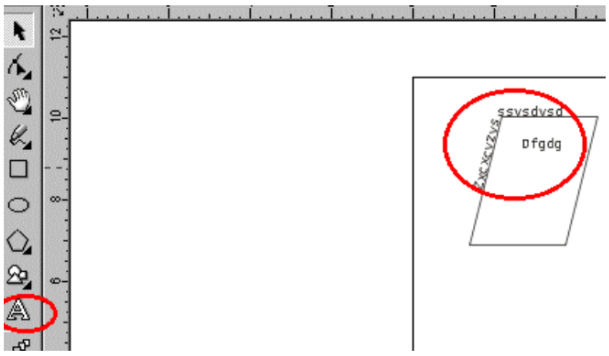
To Change Pre-defined Shape by using its Glyphs

Step 1

!"To do so, you will need to select a shape with a glyph.

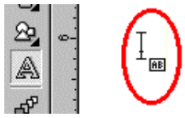
Step 2

!"Then, drag the glyph until it becomes the form that you want.



How to add Text to a Pre-defined

Form To add Text to a Pre-defined Form



Step 1

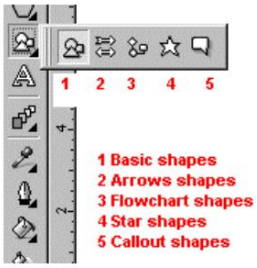
!"You will need to select the Text tool and position the cursor inside the shape's outlineuntil it changes to a Text cursor box a shown as the picture above.

Step 2

!"Then, type and format the font inside the shape.

How to draw a Pre-defined Shape

To draw a Pre-defined Shape



Step 1

!"Open the Perfect shapes fly-out, and click one of the tools.

Step 2

!"Then, click a shape at perfect shapes picker.

Step 3

!"Drag in the drawing window until it becomes the shape and the size that you want.

Working With Objects

How to Deselect the Objects

To Deselect the Objects

!"To deselect objects, you have to click on the Pick tool, and click to a blank space in thedrawing window to deselect a single object.

!"Hold down SHIFT and click the object by using the Pick tool to deselect a single object inmultiple selected objects.

How to select Multiple or an Object

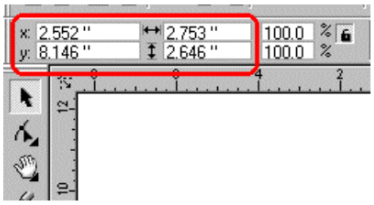
To select Multiple or an Object

!"Click an object with the Pick tool to select an object.

!"Hold down SHIFT, and click each object that you want to select the multiple objects.

How to Position an Object

To Position an Object

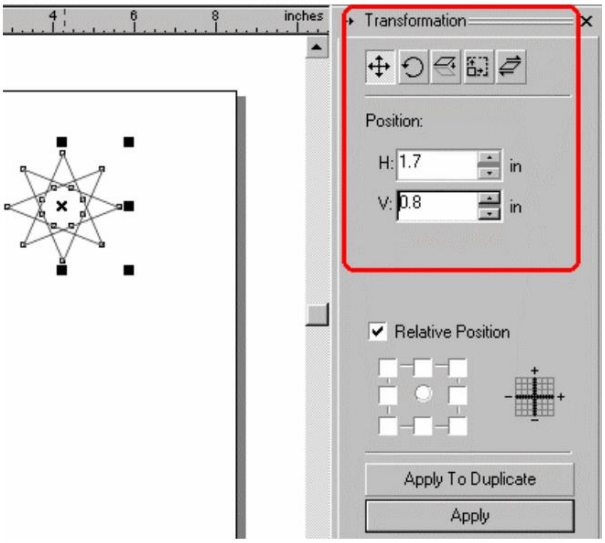


Select an object and type a value in the x-axis and y-axis stacked boxes as shown at the pictureabove.

How to Position an Object by using a

Different Anchor Point

To Position an Object by using a Different Anchor Point



Step 1

!"First of all, you have to click on an object and select Window followed by Dockers.

!"After that you ought to choose Transformations Then, select Positions.

Step 2

!"You have to disable the Relative position check box and type in the value for horizontaland vertical.

Step 3

!"Finally, click on Apply.

How to Set the Nudge Distances

To Set the Nudge Distances

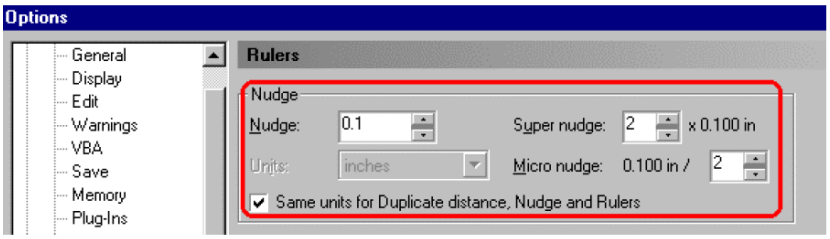
Step 1

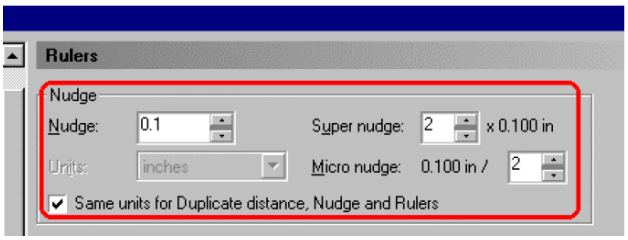
!"At the beginning, you have to click on the Tools tab from the menu bar and selectOptions.

Step 2

!"Double-click the Document and click Rulers.

!"Type in a value for Nudge, Super nudge or the Micro nudge a shown as the pictureabove.





How to Scale an Object

To Scale an Object

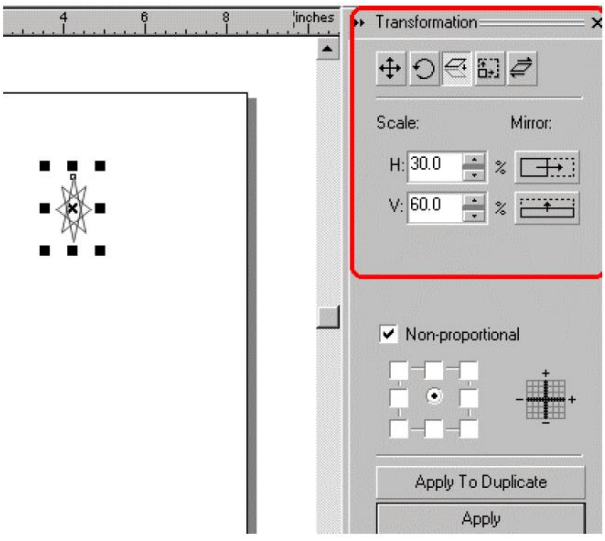
Step 1

!"You have to select an object first and click the Window tab from the menu bar and select Dockers.

!"After that click Transformations followed by Scale.

Step 2

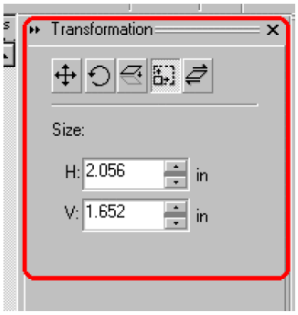
!"Then type in the horizontal and vertical values.



How to Control the Size of an Object

To Control the Size of an Object

You can drag any of the corner selection handles to size a selected object.



How to Skew an Object

To Skew an Object

Step 1

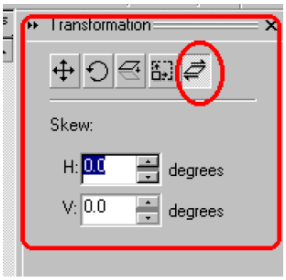
!"First of all, you have to click on an object.

!"Then, select Window tab from the menu bar and select Dockers.

!"After that choose Transformations followed by Skew.

Step2

!"Type in the horizontal and vertical values.



How to Stretch an Object

To Stretch an Object

Step 1

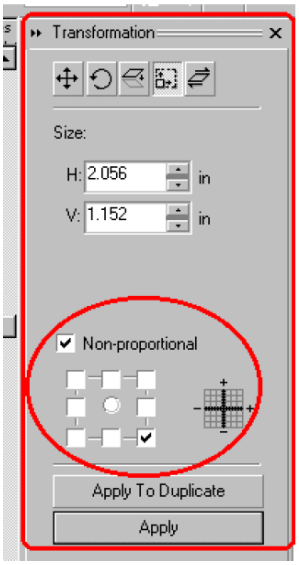
!"You will need to select an object. Click on the Window tab from the menu bar andchoose Dockers. Then choose Transformations followed by Size.

Step 2

!"After that enable the non-proportional option if you want to change the object's anchorpoint.

Step 3

!"Type a value in the width and height boxes as shown at the picture below.



How to Mirror an Object

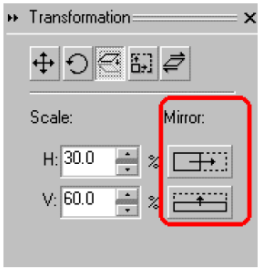
To Mirror an Object

Step 1

!"At the beginning, you will need to select an object and click on the Window tab from the menu bar and choose Dockers. After that choose Transformation followed by Scale.

Step 2

!"Click horizontal or vertical buttons to flip the object left to right or top to bottom.



How to Rotate an Object

To Rotate an Object

Step 1

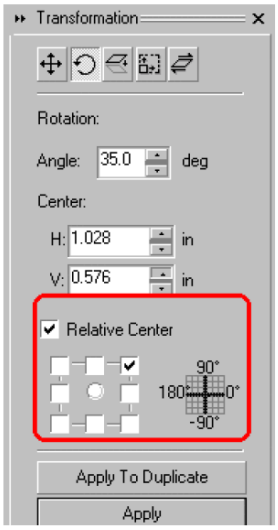
!"To rotate an object, you have to select an object that you want to rotate. Click on the Window tab from the menu bar and choose Dockers followed by Transformations. Then, click Rotate.

Step 2

!"After that type an Angle value in the box.

Step 3

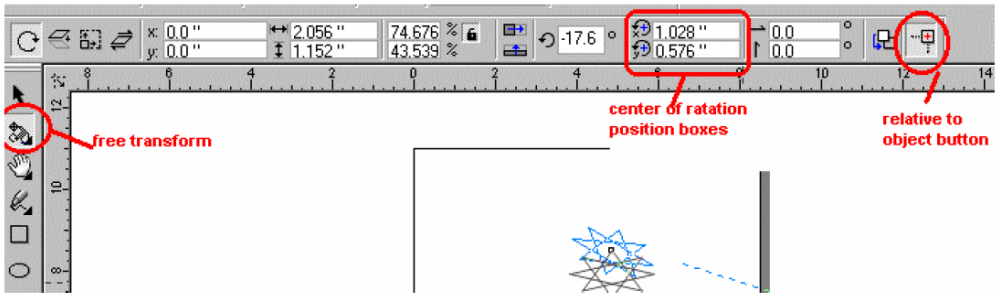
!"Type values in horizontal and vertical coordinates boxes to rotate the object.



How to Rotate an Object around a

Ruler Coordinate

To Rotate an Object around a Ruler Coordinate



Step 1

!"First, you will need to select an object and click the Free Transform at Shape edit fly

out.

Step 2

!"Type in the values in horizontal or vertical ruler or both.

Step 3

!"Now, type an Angle value to rotate the object.

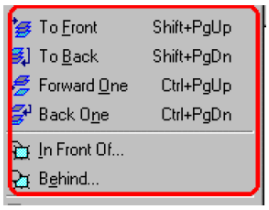
How to Change the Order of an

Object

To Change the Order of an Object

You can change the stacking order of objects on a layer by sending objects to the front back,

behind or in front of other objects.



Step 1

!"You will need to select an object.

Step 2

!"Select Arrange tab from the menu bar and select Order.

!"Click on the order to arrange the object.

How to Reverse the Order of Multiple

Objects

To Reverse the Order of Multiple Objects

Step 1

!"First of all, you have to click on the objects that you want to reverse.

Step 2

!"After that click on the Arrange tab from the menu bar and select Order followed by Reverse Order as shown at the picture above.

How to Group the Objects

To Group the Objects

Step 1

!"First of all, you have to click on the objects that you want to group.

Step 2

!"Then, click on the Arrange tab from the menu bar and choose Group.

How to Combine the Objects

To Combine the Objects

Step 1

!"At the beginning, you have to click on the objects that you want to combine.

Step 2

!"Then click Arrange tab from the menu bar and select Combine.

How to Ungroup the Objects

To Ungroup the Objects

Step 1

!"To ungroup objects, you have to select the grouped object or all the grouped objects.

Step 2

!"Then, click Arrange tab from the menu bar and choose Ungroup.

How to Align a Series of Objects

To Align a Series of Objects

Step 1

!"First of all, you have to select the objects that you want to align.

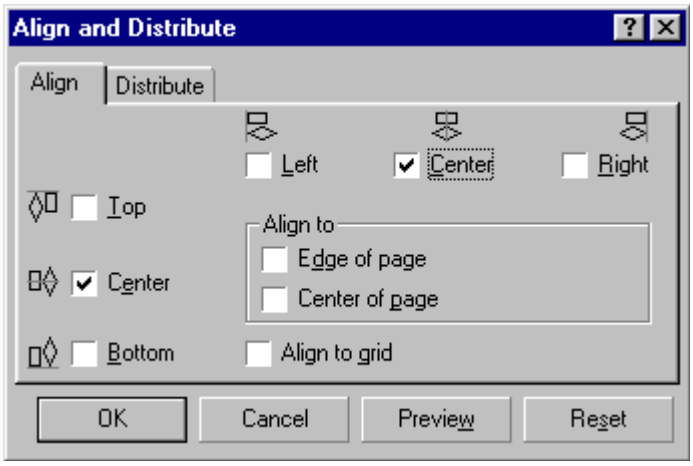
!"Then, click on the Arrange tab from the menu bar and choose Align and Distribute.

Step 2

!"After that, click the Align tab and enable the check boxes that correspond to the horizontal and vertical alignment as shown at the picture below.

Step 3

!"Enable Edge of page or Center of page to align to grid at the align area.



How to Snap Objects

To Snap Objects

Step 1

!"At the beginning, you will need to select the objects that you want to snap.

Step 2

!"After that, click the View menu and select Snap to Objects.

How to Revert to a Clone Master

To Revert to a Clone Master

Step 1

!"To do so, you are prompted to right-click a modified clone, and click Revert To Master

as the picture shown.

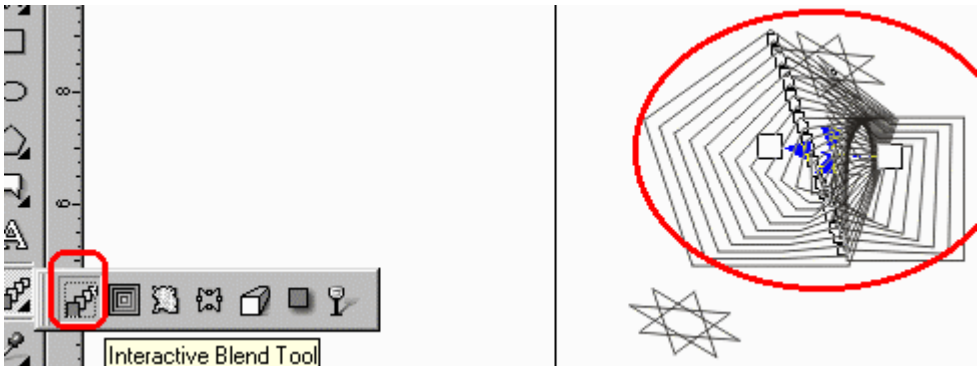
Step 2

!"Enable one of the clones at check boxes, like Clone Fill, to restore the master fill

attributes.

How to Blend Objects

To Blend Objects



You can blend along a straight line.

Open the Interactive tools fly-out, and click the Interactive Blend tool as shown at the image

above.

After that you have to select the first object and drag over the second object.

How to Start or End an Objects in a

Blend

To Start or End an Objects in a Blend

You can select the start or end object.

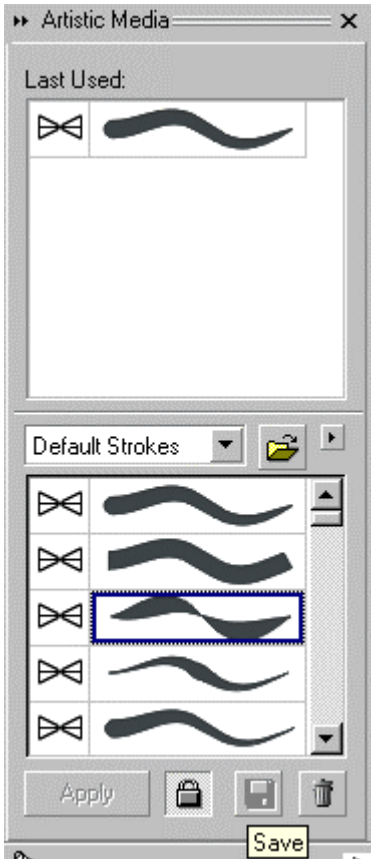
First of all, you have to select a blend. Click on the Start and end object properties button

followed by the Show Start, or Show End button.

LESSON 6. Working With Special Effects.

How to Create a New Spray List

To Create a New Spray List



Step 1

!"You will need to select the Effects menu and click Artistic Media.

!"After that choose an object or a set of grouped objects.

Step 2

!"Click on the Save button in the Artistic Media Docker window.

How to Offset the Lines that you

Spray

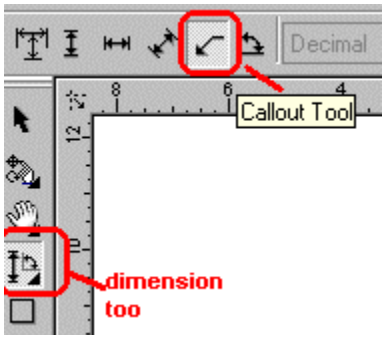
To Offset the Lines that you Spray

Step 1

!"First of all, you have to select a spray list and click on the Offset button.

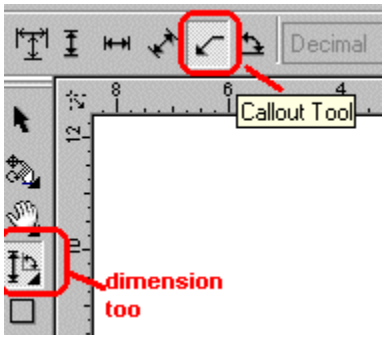
Step 2

!"Then, enable the Use Offset check box to offset the objects from the path of the line sprayed and choose an offset direction from the Offset direction.



How to Draw a Callout

To Draw a Callout



Step 1

!"To draw a callout, you are prompted to select Dimension tool at the Curve fly-out.

Step 2

!"After that click the Callout tool. Then click on the place where you want the first callout

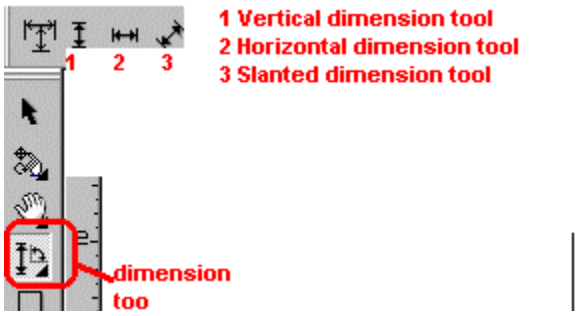
segment to start.

!"Click on the second segment to start and select the place to enter the callout text.

!"Finally, type in the text that you want.

How to Draw a Dimension Line

To Draw a Dimension Line



!"You have to click the Dimension tool at the Curve fly-out.

!"Then, click the Vertical, Horizontal, or Slanted Dimension tool buttons to draw a

dimension line.

!"Select the start and end points of the dimension line and click where you want to place

the dimension text.

How to Set the Dimension Units

To Set the Dimension Units

First of all, you have to select a dimension line and click on the Show Units for Dimension

button.

Then, choose the options from the following list boxes:

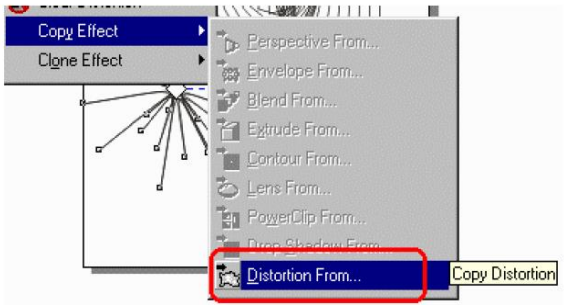
!"Dimension style list box

!"Dimension precision list box

!"Dimension units list box

How to Copy a Distortion

To Copy a Distortion



Step 1

!"At the beginning, you will need to choose the object, which you want to copy as a distortion.

Step 2

!"Click on the Effects tab from the menu bar and choose Copy Effect followed by Distortion From.

Step 3

!"Finally, you have to click on a distorted object to complete.

How to Distort an Object

To Distort an Object

Step 1

!"First of all, you have to click the Interactive Distortion tool in the Tool fly-out.

Step 2

!"After that click Push and pull, or Zipper, or Twister distortion buttons and specify the settings.

Step 3

!"Click on the place where you want to place the center of distortion.

How to Remove a Distortion

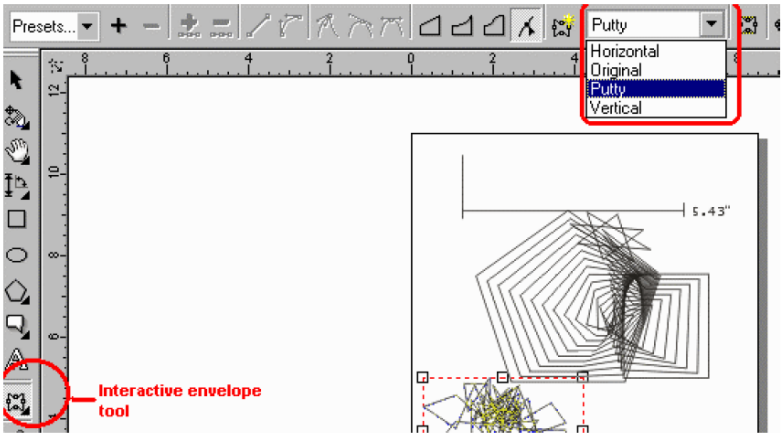
To Remove a Distortion

!"At the beginning, you have to select a distorted object that you wish to remove.

!"Then, click on the Effects menu and choose Clear distortion as shown at the picture below.

How to Change the Mapping Mode

To Change the Mapping Mode



Step 1

!"You are prompted to click the Interactive Envelope tool at the Interactive tools fly-out.

Step 2

!"Then, click an object with an envelope. Choose once from the Mapping mode list box.

Step 3

!"After that drag the nodes or the nodes' control points.

How to Create a Rollover Object

To Create a Rollover Object

Step 1

!"To create a Rollover object, you have to select an object to be created.

Step 2

!"Then choose the Effects tab from the menu bar and choose Rollover followed by Create

Rollover.

How to Edit a Rollover Object

To Edit a Rollover Object

Step 1

!"First of all, you have to select an object that you wish to edit and then click the Effects

tab from the menu bar and choose Rollover. After that click Edit Rollover.

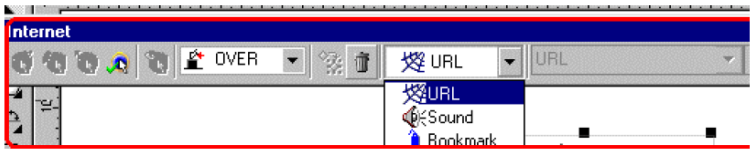
Step 2

!"Then, specify attributes of the object.

!"Click on the Effects menu and choose Rollover followed by Finish Editing Rollover.

!"A drawing in which you are editing a rollover cannot be closed. You must finish editing

the button before that.



How to Apply a Uniform Fill

To Apply a Uniform Fill

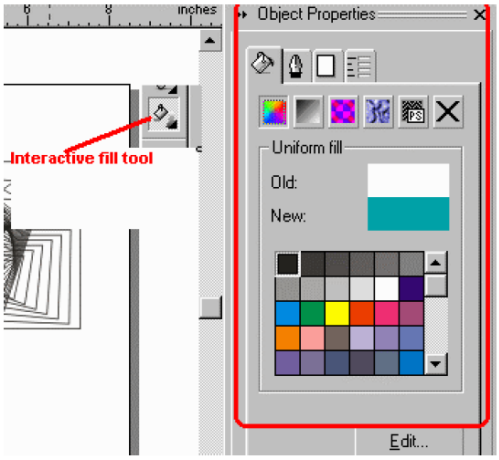
Step 1

!"At the beginning, you have to select an object that you can apply a Uniform Fill effect.

!"Then click the Interactive Fill tool at the Interactive Fills fly-out.

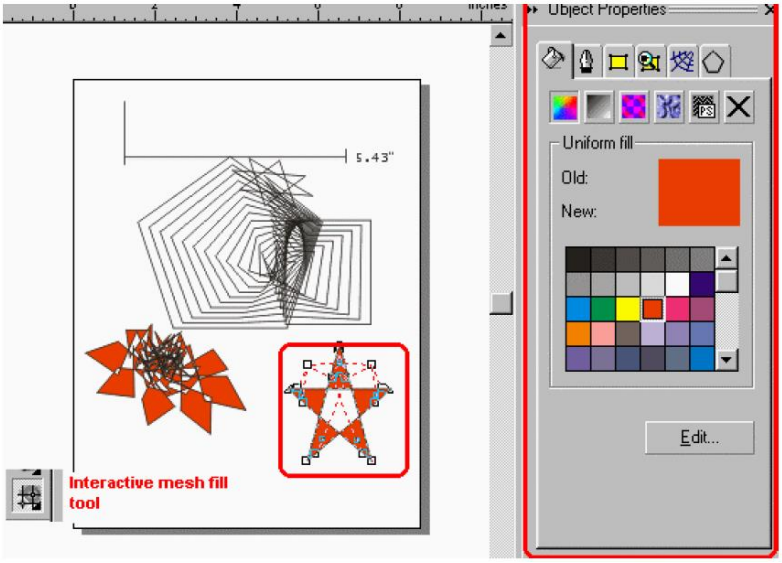
Step 2

!"Choose the Uniform Fill from the Fill Type list box.



How to Apply a Mesh Fill to an Object

To Apply a Mesh Fill to an Object



Step 1

!"You will need to choose an object to apply a Mesh Fill effect.

Step 2

!"Click the Interactive Mesh Fill tool at the Interactive fill fly-out.

Step 3

!"Type the number of columns or rows in the top portion or bottom portion of the Grid size

box and press the Enter key.

Step 3

!"Then you can adjust the grid nodes on the object.

How to Apply Special Effects to

Bitmapped Images

To Apply Special Effects to Bitmapped Images

The special effects that can apply to a wide range of bitmapped images:

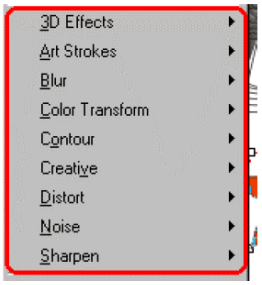
a. The three-dimensional special effect can create the illusion of three-dimensional depth.

b. The art strokes effect can apply hand-painted techniques.

c. The blur effects make an image to simulate gradual change, movement, or speckling.

How to Apply a Special Effect

To Apply a Special Effect



The picture at above shows the type of available Special Effects in Corel Draw 10, such as 3D

Effects, Art Strokes, Blur, Color Transform, Contour, Creative, Distort, Noise and Sharpen

effects.

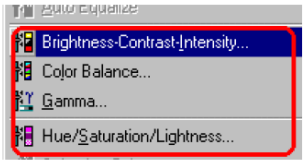
To apply a special effect on a picture or object, choose the object. Then select a Specia Effect

type from the list above.

You can then adjust any special-effect settings to the selected object.

How to Apply a Color or Tone Effect

To Apply a Color or Tone Effect



Step 1

!"You will need to select a bitmapped image.

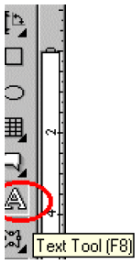
Step 2

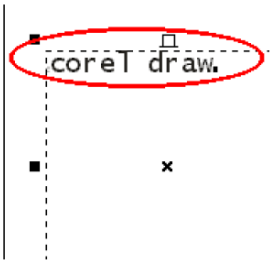
!"Then click the Effects menu and choose Adjust.

!"After that click a color or tone effect to specify any settings.

How to Add an Artistic Text

To Add an Artistic Text





Click any place in the drawing window by using the Text tool.

You can then begin to type in the text that you want on the drawing. Apply Artistic tex effect on

the text when you need.

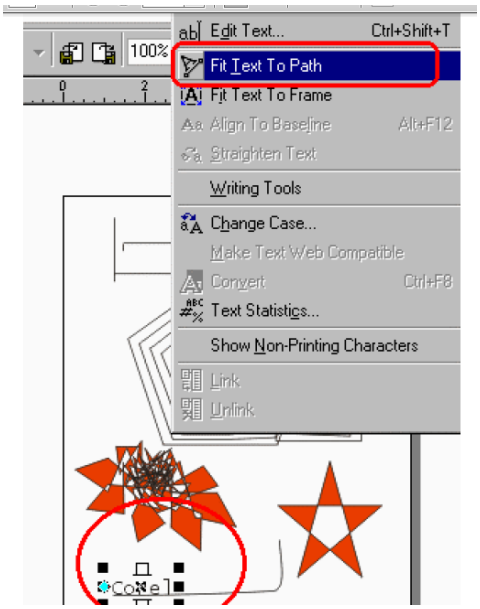
How to Fit the Text to a Path

To Fit the Text to a Path

!"You will need to select the path by using the Pick tool.

!"Then, click on the Text tab from the menu bar and choose Fit Text To Path.

!"Type along the path. The text will then fit to the path.



Lesson7. Adobe Photoshop CS5

1. Begin by opening Adobe Photoshop CS5.

   On a PC, click Start > Programs > Adobe > Photoshop CS5, or click on the shortcut on the desktop.

   On a Mac, click Macintosh HD > Applications > Adobe Photoshop CS5 > Photoshop CS5 shown in Figure 1, or click the icon in the Dock.

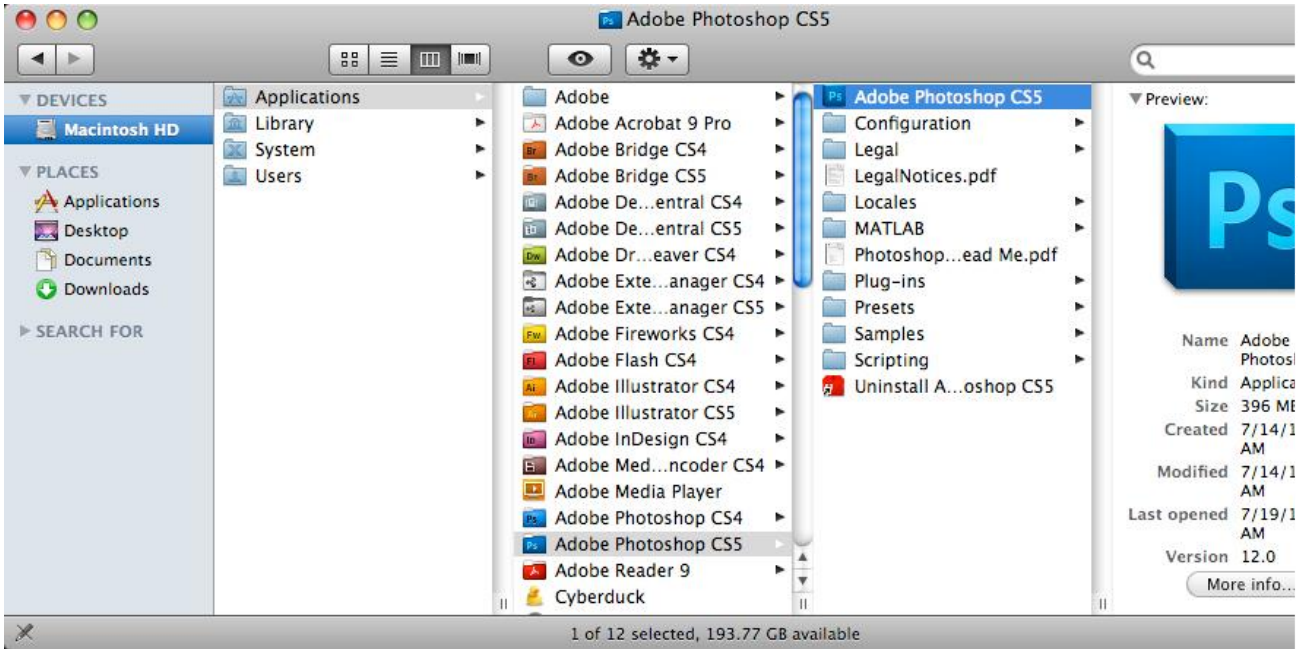


Figure 1. Navigation to Photoshop CS5 on a Mac

Setting up the document

Setting up your document correctly from the start will make your job much easier as you work through you project. This will require some advanced planning. For example, if your fnal output will be a brochure, you may need to set up your document to be horizontal and double-sided.

To create a new document, click File > New. This will open the Document Setup dialog box (Figure 2).

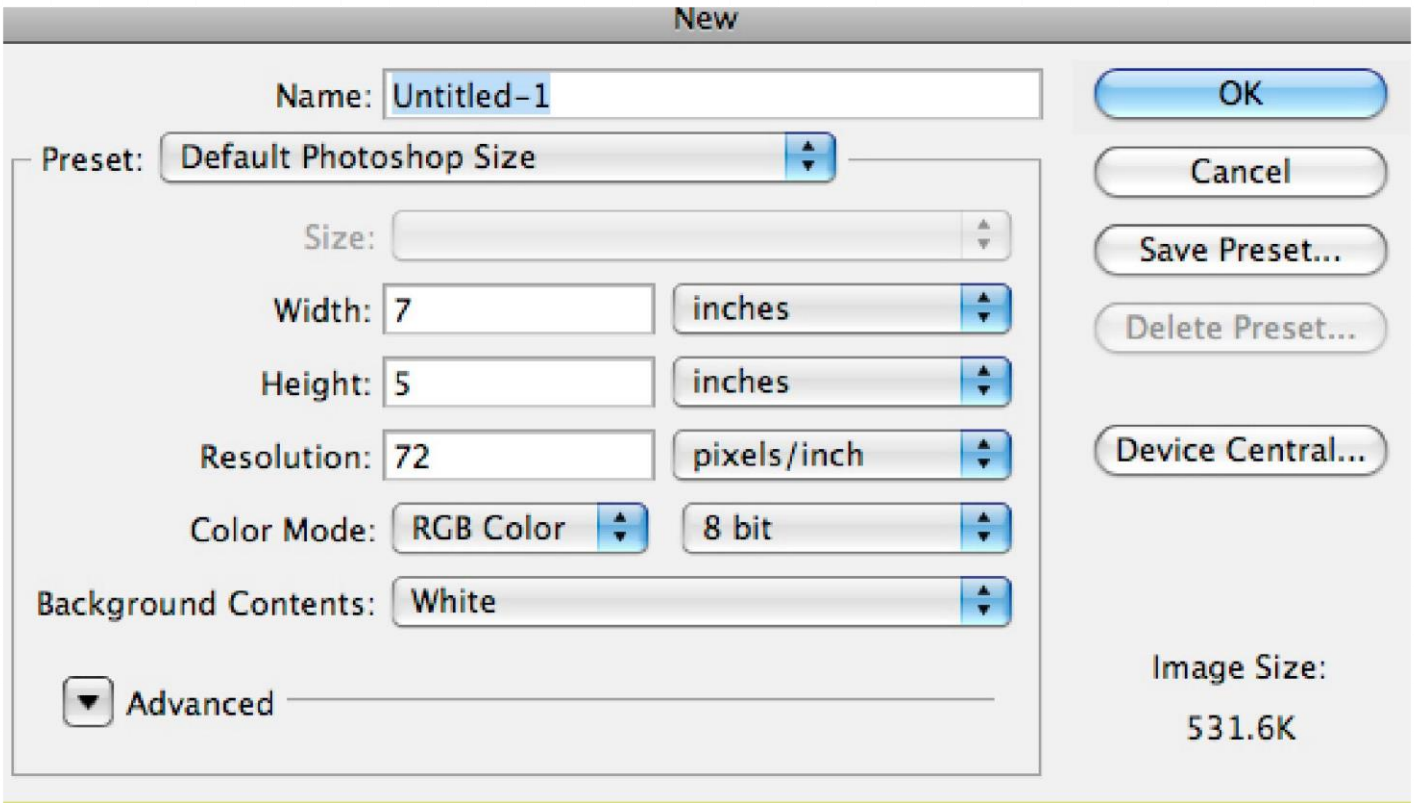


Figure 2. Document Setup dialog box

Iere you will be able to name your fle, set up the correct page size, and orientation for your document. Options nclude, but are not limited to:

Page Size and Orientation

Change the page size by typing in new values for width and height. Page size represents the fnal size you want afte bleeds or trimming other marks outside the page. In the Preset dropdown menu you can fnd such common size as letter, legal, tabloid, etc. Typing in exact values for Height and Width gives you more control over the size and orientation of your page.

Resolution

Resolution is the number of pixels on a printed area of an image. The higher the resolution, the more pixels there are on the page, the better the quality of the image. However, high resolution increases the size of the fle. The standard recommended resolution for printed images is 150-300, for Web im ages it is 72.

Color Mode

Choose a color mode that will best ft your project. For example, when making a graphic for a web site choose RGB. When making an image for print choose CMYK.

Background Contents

Choose the background: white, color or transparent. When you have entered all of your document settings clic Ok.

)pening an image from a disk

the image you have is saved on a disk, select File > Open, and then navigate to the disk drive where your image is saved. hoose the image fle and click Open. At this point, you may want to save your image under a different name so that you an always have the original to fall back on in case of a mistake. To save your fle, select File > Save As and type in the ew name of the fle in the dialogue box..

2. Interface Layout

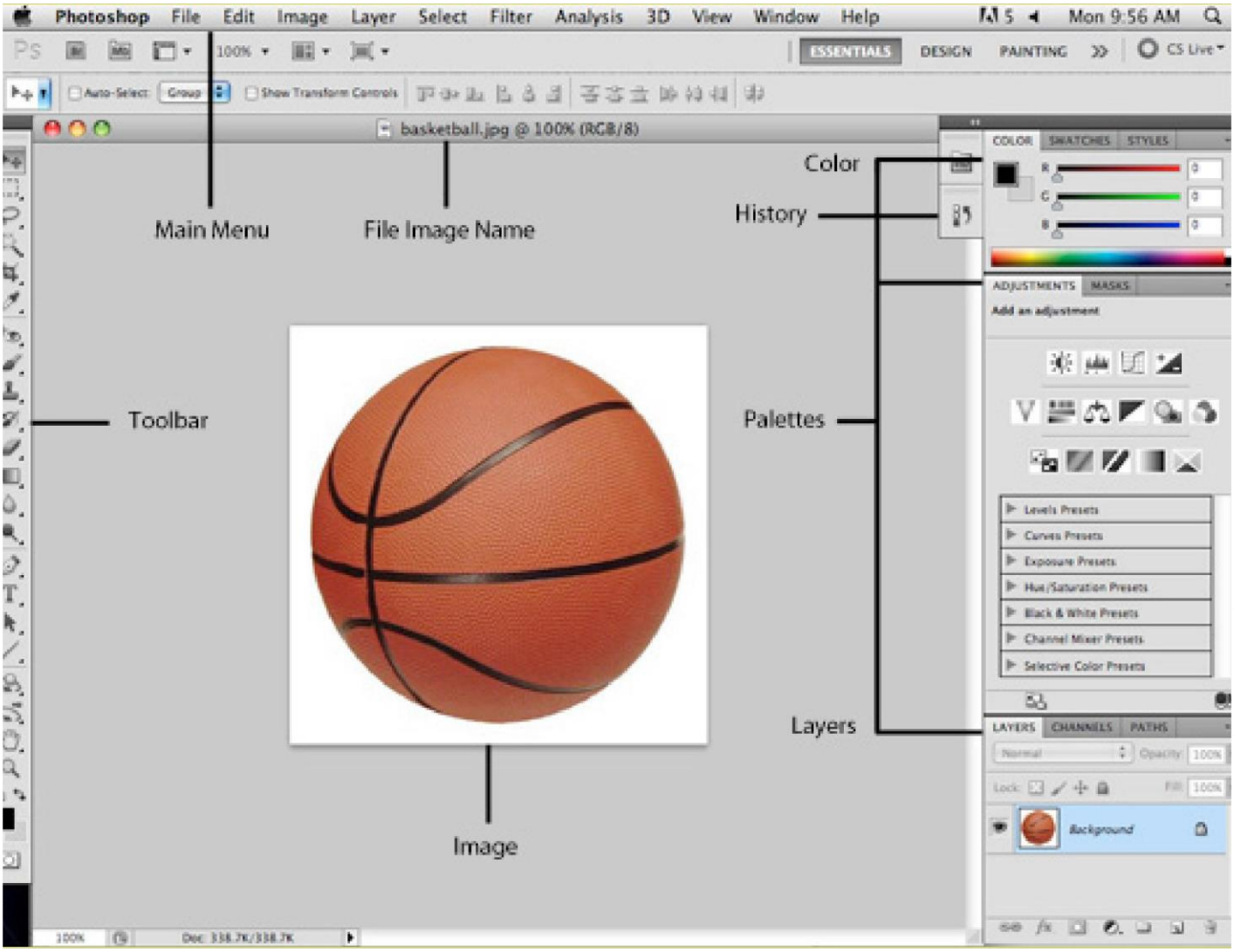


Figure 3. This is the layout of Adobe Photoshop interface.

Menu Bar

If you look at the top of the screen you will see the Menu bar which contains all the main functions of Photosho such as File, Edit, Image, Layer, Select, Filter, Analysis, 3D, View, Window, and Help.

Toolbar

Most of the major tools are located in the Toolbar for easy access.

The Image

The image will appear in its own window once you open a fle.

Image Name

The name of any image that you open will be at the top of the image window as shown above.

Palettes

Palettes contain functions that help you monitor and modify images. By default, palettes are stacked together in groups. These are the palettes that are usually visible: Color, Adjustments and Layers. If none of the palettes are visible, go to Window in the Menu bar and choose the palettes you need.

3. Palettes

elow is the description of the most commonly used palettes in Adobe Photoshop CS5. Palettes used for more dvanced image editing will be covered in the Adobe Photoshop CS5 Tutorial -Intermediate.

olor, Swatches, Style

he Color palette (Figure 4) displays the current foreground and background colors and RGB values for these colors. Yo u an use the sliders to change the foreground and background colors in different color modes. Yo u can also choose a color om the spectrum of colors displayed in the color ramp at the bottom of the palette.

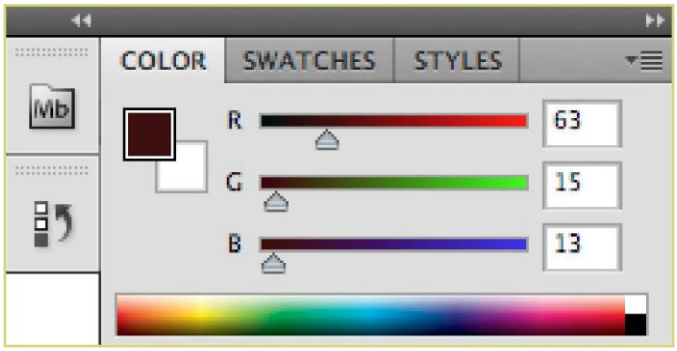


Figure 4. Color palette

n the Swatches palette (Figure 5) you can choose a foreground or background color and add acustomized color to the brary.

Figure 5. Swatches palette

he Styles palette (Figure 6) allows you to view, select, and apply preset layer styles. By default, a preset style replaces the urrent layer style. Yo u can use the styles in the palette or add your own using the Create New Style icon.

Figure 6. Styles palette

History

The History palette (Figure 7) stores and displays each action performed allowing you jump to any recent stage of the image alteration. The alterations should be created during the current working session; after saving or closing the document the History palette clears all the contents. Each time you apply a change to an image, the new state of that image is added to the palette. It is important to know that once you click on any of the previous stages, all the changes that were made after it will be lost.

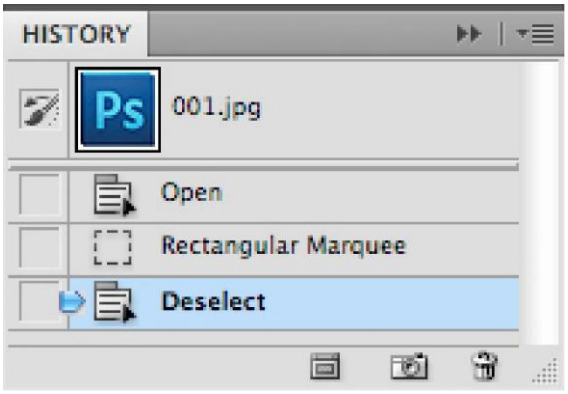


Figure 7. History palette

Adjustments

The Adjustment layers palette give you the ability to apply an effect to a group of layers in Photoshop, and then you can edit that effect later, while preserving the original layers.

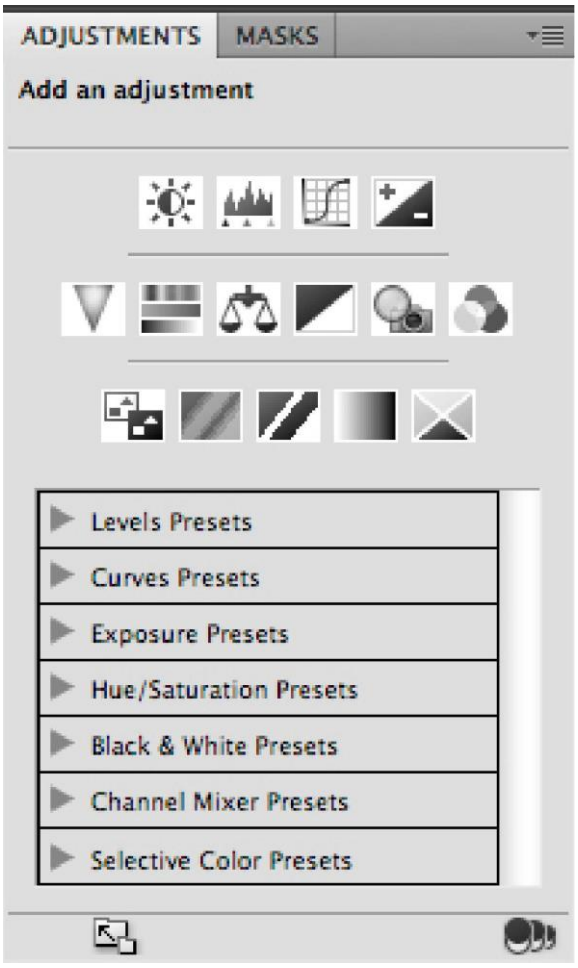


Figure 8. Adjustments palette

ayers let you organize your work into distinct levels that can be edited and viewed as individual units. Every Photoshop S5 document contains at least one layer. Creating multiple layers lets you easily control how your artwork is printed, isplayed, and edited. Yo u will use the Layers palette (Figure 6) often while creating a document, so it is crucial to nderstand what it does and how to use it.

) Layer Visibility -The eye shows that the selected layer is visible. Click on or off to see or to hide a layer.

) Layer Locking Options -Click the checkered square icon to lock Transparency; click the brush icon to lock the Image; lick the arrow icon to lock the Position; click the lock icon to lock all options.

) Layer Blending Mode -Defnes how the layer's pixels blend with underlying pixels in the image. By choosing a particular lending mode from the dropdown menu you can create a variety of special effects.

) Fill -By typing in a value or dragging the slider you can specify the transparency. Layers Palette color of the image or bject.

) Opacity -By typing in a value or dragging a slider you can specify the transparency of the entire layer.

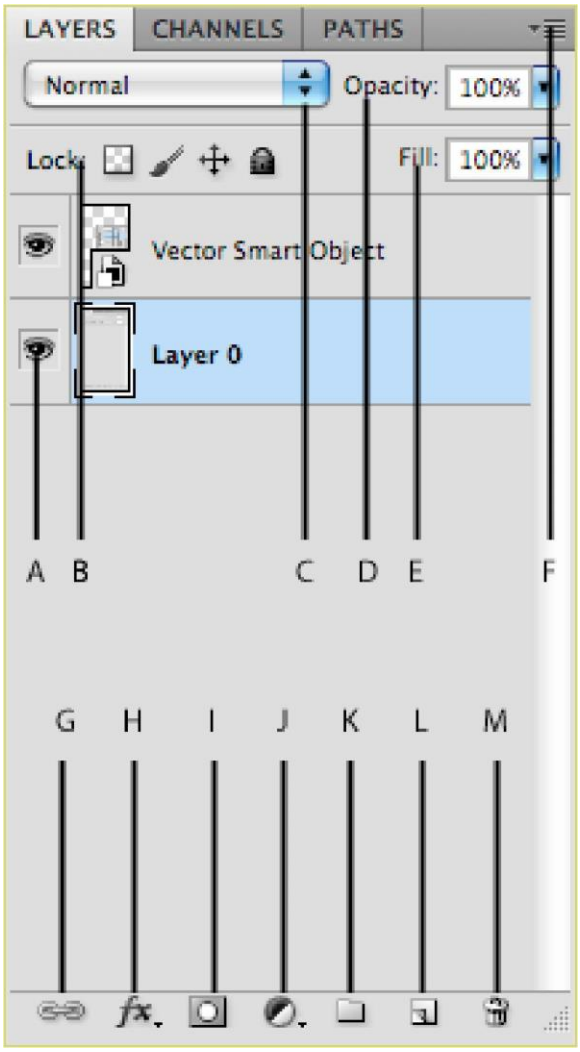


Figure 9. Layer palette

F) Layer Lock -The icon shows when the layer is locked and disappears when it is unlocked. Double-click the con to unlock the layer.

G) Layer Options Menu -Click the black triangle to see the following options: New Layer, Duplicate Layer, Delete Layer, Layer Properties, etc. Some of the options are presented as icons at the bottom of the Layers palette.

H) Link Layers – Can be used to link layers together.

) Layer Styles -If a layer has a style, an "F" icon shows at the bottom of the Layers palette. Click the little black triangle to see style options.

) Layer Mask -A grayscale image, with parts painted in black hidden, parts painted in white showing, and parts painted in gray shades showing in various levels of transparency.

K) Layer Set -This option helps to organize images with multiple layers. Click the icon to create a folder for several ayers.

L) Create New Fill or Adjustment Layer -Have the same opacity and blending mode options as image layers and can be rearranged, deleted, hidden and duplicated in the same manner as image layers. Click the icon and select an option to create a new fll or adjustment layer.

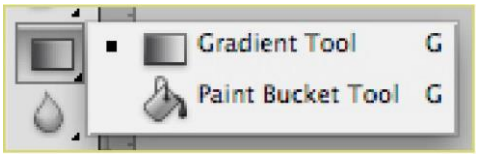
M) Create New Layer -Click this icon to create a new layer.

N) Delete Layer - To delete a layer, select a layer in the Layers palette and drag it to the trash can icon; or, select a layer and click the icon.

Lesson8. Toolbox

If you used other Adobe products, such as Illustrator or InDesign, you should be familiar with the toolbox ir Adobe Photoshop CS5 as it shares some of the tools from these applications. If you are a new user of Adobe products, you should keep in mind that you might not need to use all of the tools. In this tutorial, only the basic tools will be discussed in depth.

Some tools in the toolbar have additional "hidden" tools. These tools have small black triangles in the right-hand corner. To view the "hidden" tools, click and hold down on any tool that has a black triangle in the corner (Figure 10).



Selection Tools

Move

Used to select and move objects on the page.

Click the tool button, then click on any object on the page you wish to move.

Marquee

Selects an object by drawing a rectangle or an ellipse around it.

Click the tool button, choose a rectangular or an elliptical marquee. Drag the marquee over the area of the image you wish to select.

Lasso

Selects an object by drawing a freehand border around it.

Click the tool button, drag to draw a freehand border around the are of the image you wish to select.

Magic Wand

Selects all objects in a document with the same or similar fll color, stroke weight, stroke color, opacity or blending mode. By specifying the color range or tolerance, you can control what the Magic Wand tool selects.

Crop

Click the tool button, then click and drag the tool over the part of the image that you want to keep. Resize the selected area dragging the squares at the sides and corners. Click the Return/Enter key when your crop box is sized correctly.

Eye Dropper Takes color samples from colors on the page and displays them in the Color Boxes.

Select the tool, click on the color in the image you wish to sample. The Color Box will display this color.

Alteration Tools

Healing Brush Corrects small blemishes in scanned photos.

Select the tool, hold down the ALT key and left-click on the base color you need to heal. Then left-click over the blemish.

Brush Draws brush strokes of different thicknesses and colors.

Select the tool. Then click on the selected area, drag to draw lines. Use the Options bar to change the brush, mode, opacity and fow.

Clone Stamp Takes a sample of an image and applies over another image, or a part of the same image.

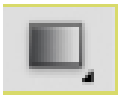
Select the tool. Hold down the ALT key and left-click on a certain point of the document where you want to start your copy point. Then, put your mouse over whatever part of the new document you want the picture to go to. Hold down the left mouse button and drag the mouse across the page to copy the picture.

Art History Brush Paints over an image using the source data from a specifed history state or snapshot. Select the tool, specify the brush, blending mode, opacity, style, area and tolerance.

Eraser Removes part of an existing path or stroke. Yo u can use the Erase tool on paths, but not on text.

Select the tool, click on the part of the image you wish to erase. Drag to erase pixels.

Gradient



Applies a gradient fll to a selected part of the image or to an entire layer.

Select an area you wish to apply gradient to, click the tool button, choose a fll in the Options bar, click on the starting point, and hold the mouse down and drag to the end point.

Blur

Blurs the sharp edges of an image.

Select an area where you wish to apply the tool. Click the tool button and choose the brush, mode, and strength. Drag the brush along the edges.

Drawing and Selection Tools

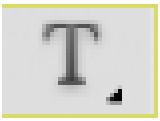
Path Selection

Selects paths and path segments.

Select the tool, click anywhere on the path.

Type

Types text on a page. Every time you click the Type Tool on a new portion of the page a new layer will be created.



Select the tool, click on the page and begin to type. Yo u can specify the font and size in the Options bar. Yo u can also resize and transform the text box by dragging the squares at the sides and corners. Use the Move Tool to move the text on the page.

Pen

Draws smooth-edged paths.

Select the tool, click on the page and drag to draw a path. Click and drag the anchor points to modify the path.

Line Shape

Draws a straight line. Other shapes that are hidden in this tool are: Rounded Rectangle Tool, Ellipse Tool, Polygon Tool, Line Tool, and Custom Shape Tool.

Select the tool, click and drag on the page to draw a line.

Assiting Tools

Hand

Allows you to move around	within the image. Select the tool, click on the spot on the page, hold the mouse button down, drag to move in the area.

/agnify

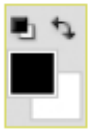
Magnifes or reduces the display of any area in your image window.

elect the tool, choose Zoom In or Zoom Out in the Options bar, click on the area of the image you wish to magnify r reduce.

Lesson9. Color Boxes and Modes

Color Boxes

The foreground color appears in the upper color selection box and represents a color that is currently active. The background color appears in the lower box and represents an inactive color.



1.To change the foreground color, click the upper color selection box in the Toolbox.

2.To change the background color, click the lower color selection box in the Toolbox.

3.To reverse the foreground and background colors, click the Switch Colors icon (the arrow) in the toolbox.

4.To restore the default foreground and background colors, click the Default Colors icon (the little black and white boxes) in the toolbox.

Note: If you are using the Gradient Tool, the currently selected foreground and background colors will be the default colors of the gradient.

10. Basic Image Editing

low that you know how to fnd your way around in the Adobe Photoshop CS5 interface and are familiar with the most common commands, palletes, and tools, you can start doing some basic image editing. In the next few chapters of this utorial you will learn how to crop, resize, correct, and sharp/blur your images.

11. Cropping

Cropping is one of the most basic editing techniques that can improve your images. Cropping helps to bring out the most important features in your image and focus the viewers' attention on these features. Cropping also allows you to make your image a standard photo size.

There are several ways to crop images in Adobe Photoshop:

1. Cropping with the Crop Tool
2. Cropping to a specifc size
3. Cropping with the Marquee Tool

Cropping with the Crop Tool

The Crop Tool allows you to make a precise selection of an image you wish to edit. To crop with the Crop Tool, follow these steps:

1. Open the image you wish to crop (see Getting Started for detailed instructions).
2. Select the Crop Tool from the Toolbox (see Selection Tools for location and description).
3. Click on your image once and drag the mouse out to make a cropping border (See Figure 11).

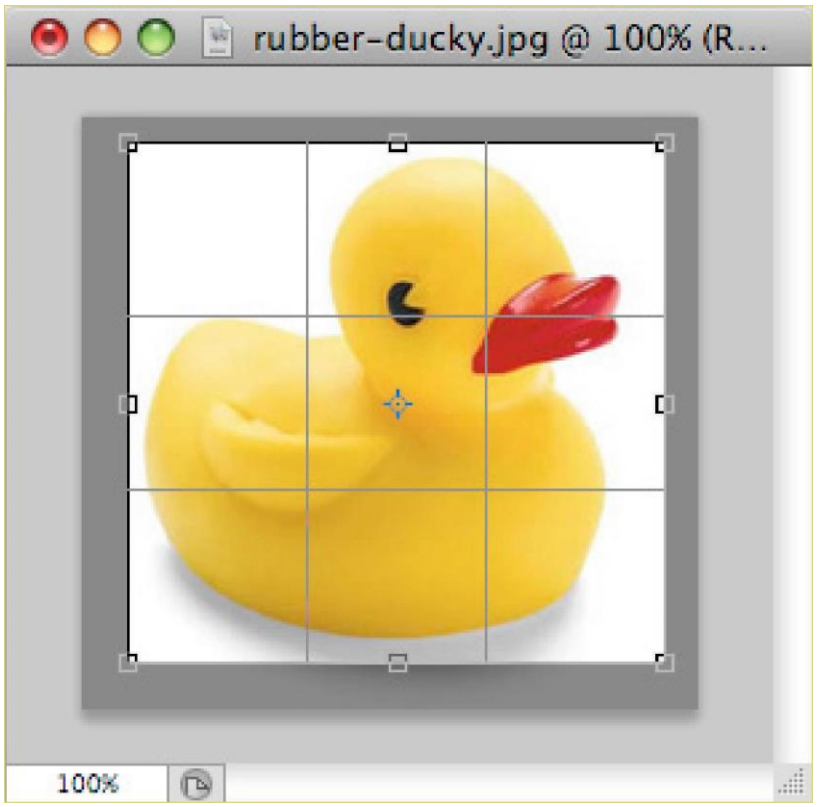


Figure 11. Cropping border

4. Resize the border by dragging the squares at the sides and corners till you are satisfied with the way your image looks.

5. Once you are completely satisfed with your cropped image, press Enter.

lote: Yo u can also rotate your cropping border. Move the cursor outside the border, you will see how it turns into a ouble-headed arrow (Figure 12). Drag the arrows in the directions you wish to rotate your selection.

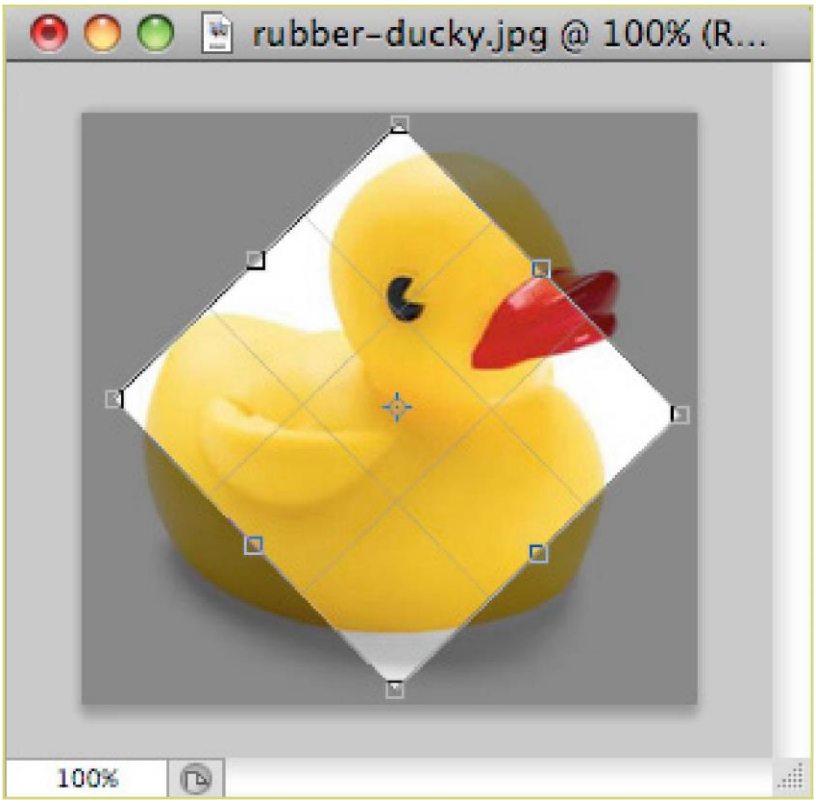


Figure 12. Rotating the cropping border

ropping to a specifc size

' you wish to print your digital photos or other images on standard size photo paper, you will have to crop your images ɔ a specifc size, such as 8x10. To crop an image to a specifc size, do the following:

1. Open the image you wish to crop.
2. Select the Crop Tool from the Toolbox.
3. In the Options bar, specify the values for Width and Height (Figure 13).

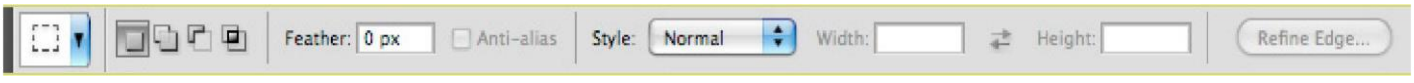


Figure 13. Crop Tool Options bar

4. Click in your image and drag the cropping border. Notice that the border is constrained - you cannot make it wider or longer than the specifed values (Figure 14). For example, if you entered 8 for Width and 10 for Height, whatever size you make the border, the area within it will fit on an 8x10 photo.

Figure 14. Cropping to a specifc size

5. Once you are completely satisfed with your cropped image, press Enter.

ropping with the Marquee Tool

you are in a hurry and need just a simple crop, you can use the Marquee Tool and a menu command. To crop with the Marquee Tool, follow the steps below:

1. Open the image you wish to crop.
2. Select the Rectangular Marquee Tool from the Toolbox (see Selection Tools).

3. Click and drag the mouse to draw a marquee around the area you wish to crop (Figure 15).

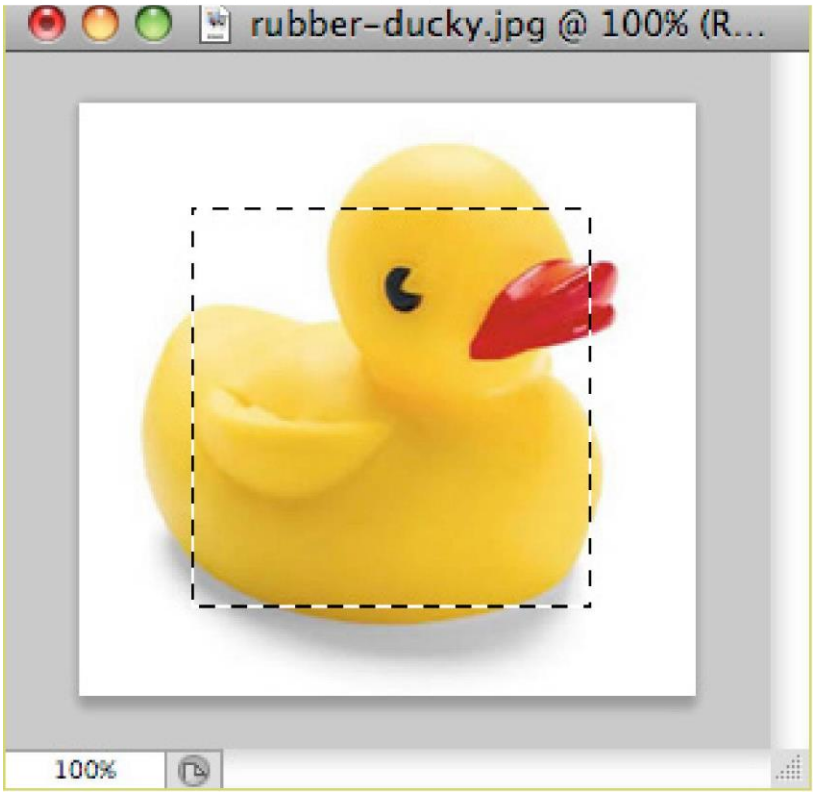


Figure 15. Drawing a marquee 4. In the main menu, go to Image > Crop (Figure 16). The image will be immediately cropped.

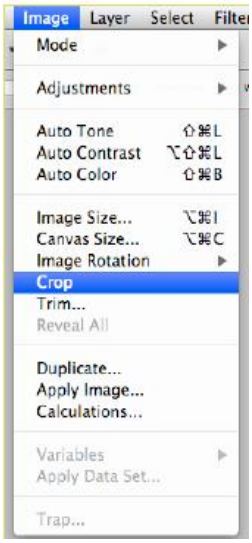


Figure 16. Image > Crop

12. Resizing

esizing in Photoshop can help you print your images in standard photo sizes, resize and preserve the high quality of igital photos, and enlarge small images to a poster size.

esizing to a specifc size

o resize your image to a preset size, follow the steps below:

1. In the main menu, go to File > New.
2. In the New dialog box, click on the Preset dropdown menu. Yo u will see several preset sizes, such as 2x3, 4x6 an x7 with the preset resolution of 300 ppi (Figure 17).

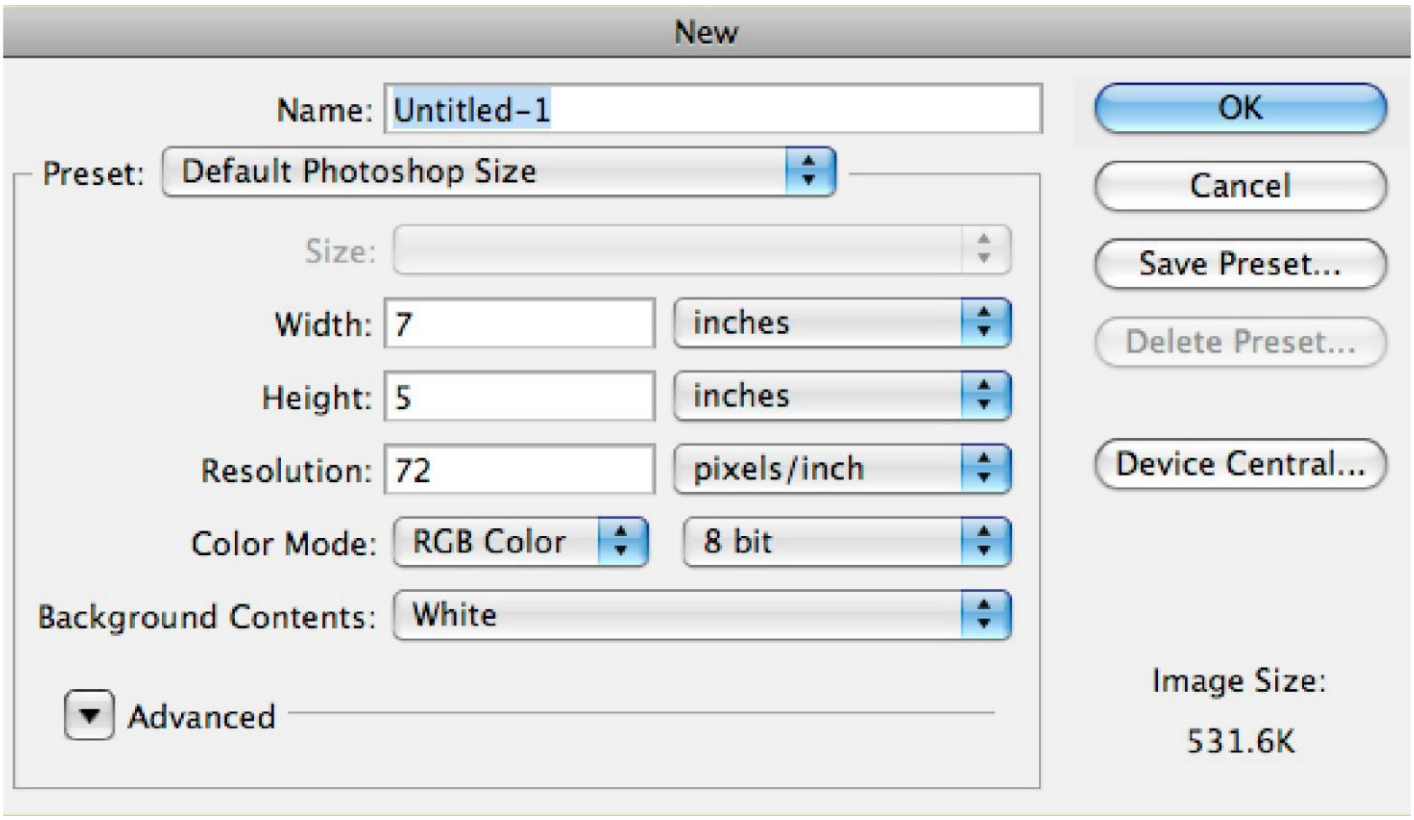


Figure 17. Preset size in the New dialog box

3. Choose the size that you wish and click OK.

Iote: All the preset sizes are in portrait orientation. If you wish to resize an image with the landscape orientation, you eed to create your own preset. To create your own size, do the following:

1. Type in the values for Width and Height, for example 7x5.
2. Type in your desired resolution (150 ppi for high quality prints, and 72 ppi is good for web images).
3. Click the Save Preset button

igital photos usually have large dimensions but low resolution, 72 ppi, which effects their quality when their size is ecreased or increased. When printed, the photos with the changed size will look pixilated. To resize the digital photos ithout loosing the quality, follow these steps:

1. Open the digital photo you wish to resize.
2. In the main menu, go to View > Rulers. Yo u will see the dimension of your photo (Figure 18).

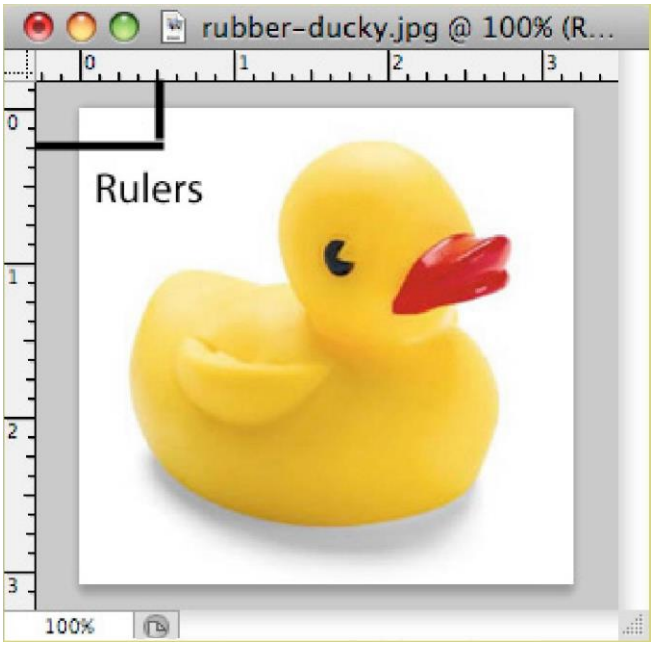


Figure 18. Dimensions of a digital photo

3. In the main menu, go to Image > Image Size.
4. In the Image Size dialog box, check the Resample Image box off (Figure 19). Type in your desired resolution anything between 150 and 300 ppi). The photo is now 3.208 x 3.083 inches.

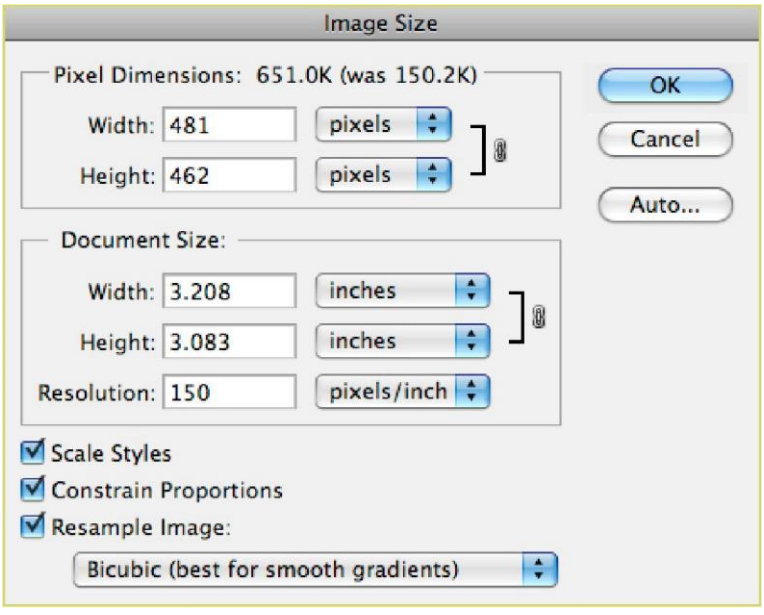


Figure 19. Changing resolution

you want to make your digital photo into a poster size image, you can do it in the Image Size dialog box. However, just ıcreasing the dimensions will make the image appear blurry and pixilated. To enlarge the image without loosing the uality, follow these steps:

1. Open the digital image you wish to enlarge.
2. In the main menu, go to Image > Image Size.
3. In the Image Size dialog box, make sure the Resample Image box is checked off and choose Bicubic Smoother ·om the dropdown box (Figure 20).

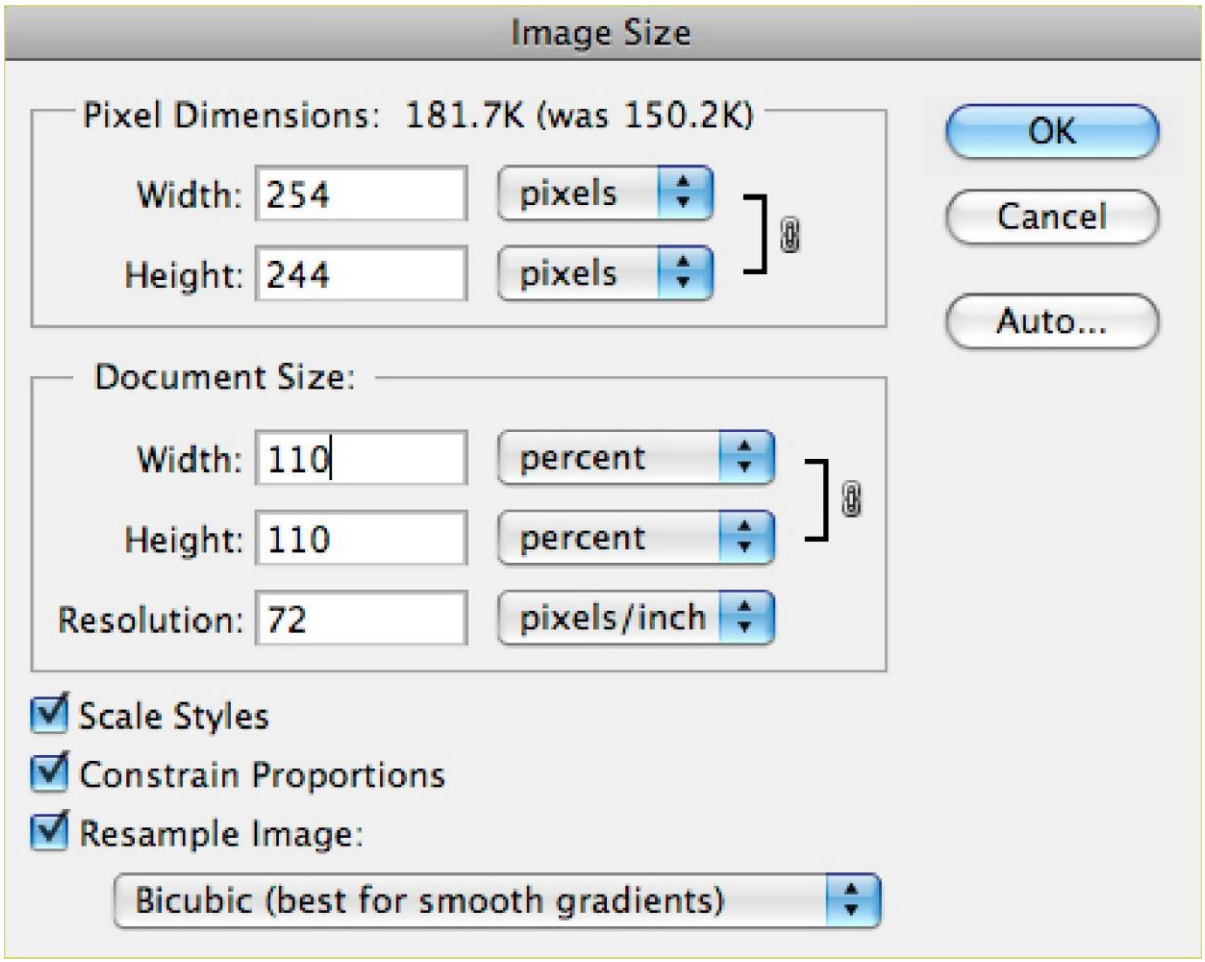


Figure 20. Increasing the size by 10 percent

4. Change the Document Size measurements to Percent. Type in 110; this will in crease the size of the image by 0 percent (Figure 20).

3. Continue enlarging by 10 percent till you are satisfied with the size.

13. Correcting

igital cameras tend to cause various problems, such as “red eye” or “hot spots”, if you use fash, or underexposure, if ou don’t. In Photoshop, you can correct these problems, as well as adjust the overall color of your digital photo.

ed Eye Removal

he digital camera fash is located right above the lens, which causes the “red-eye”; however, you can fx your photos asily in Photoshop. To remove the “red eye”, follow the steps below:

1. Open a photo you wish to correct.
2. Select the Zoom Tool from the Toolbox. Click and drag a rectangle around the eye (Figure 21).

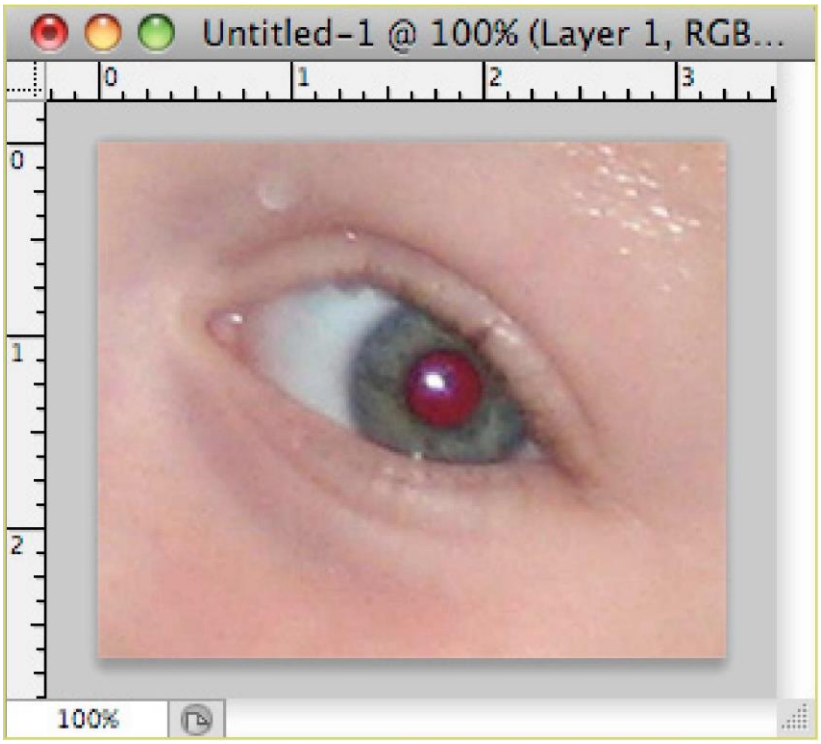


Figure 21. Red eye zoomed in 3. Make sure your

default Foreground and Background colors are black and white.

■j ч

4. Click and hold on the little black triangle of the Healing Brush Tool button and select the Red Eye Tool. Figure 22).

Figure 22. Red Eye Tool

isappear (Figure 23).

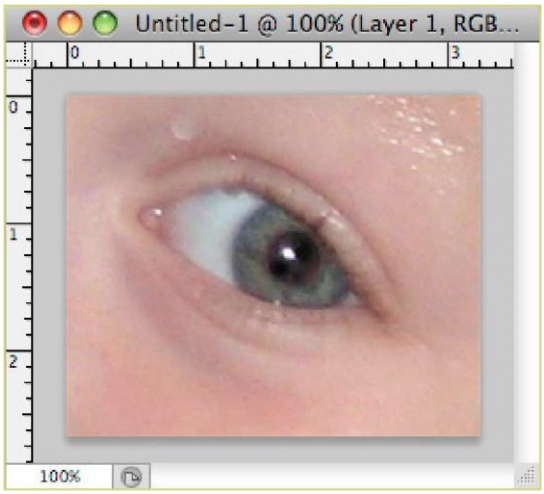


Figure 23. Red eye corrected

lot Spot Removal

lsing a fash can also cause another problem -shiny areas on people's faces or the fash refection in the shiny surfaces. To orrect this problem, follow the steps below:

1. Open the photo you wish to correct.
2. Select the Clone Stamp Tool from the Toolbox.
3. In the Options bar, change the Blend Mode from Normal to Darken (Figure 24).

Figure 24. Setting the options for the Clone Stamp Tool

4. Set the Opacity to 50 percent.
5. Choose a soft-edged brush, set the diameter to 40 or 50.
6. tHold down the Shift key and click in the clean area (without "hot spots") to get a sample of color (Figure 5).

Figure 25. Clone Stamp selection 7. Paint over

the "hot spot", the light area will gradually darken (Figure 26).

Figure 26. Corrected image

' you took pictures indoors without a fash they will turn out underexposed and dark; in Photoshop, you can make our photos lighter. To fx underexposed photos, follow these steps:

1. Open a digital photo you wish to correct (Figure 27).

Figure 27. Underexposed photo

2. In the main menu, go to Layers > Duplicate. In the next window, name the layer Layer 1.
3. Make sure Layer 1 is selected in the Layers palette. In the Blending Mode drop down box, change the Blending Mode to Screen (Figure 28). The whole image will lighten.

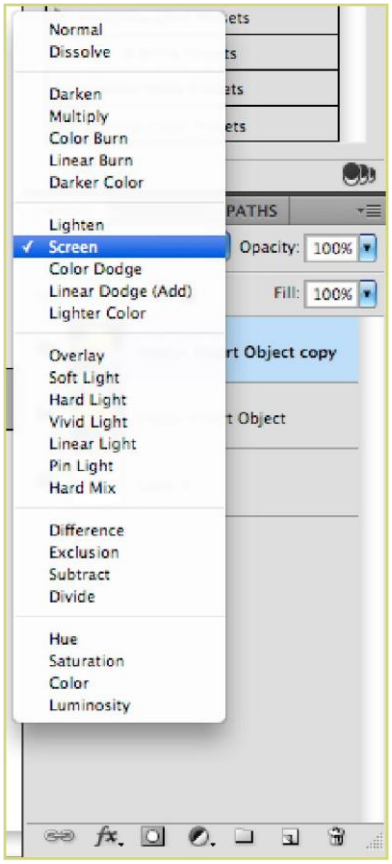


Figure 28. Changing the Blending Mode

4. Keep duplicating Layer 1 till you are satisfied with the your image (Figure 29).

Figure 29. Corrected photo

olor Adjustment

olor adjustment options in Photoshop CS5 can help you to make your digital photos look more natural. To color orrect your images, follow these steps:

1. Open the image you wish to correct.
2. In the main menu, go to Image > Adjustments > Levels. Yo u will see a dialog box displaying a diagram of the olors in your image (Figure 30). The black triangle is for shadows, the gray is for midtones, the white is for highlights. In ne Channels dropdown menu, you can choose between RGB, Red, Green, or Blue. These indicate whether your changes ffect all the colors, or just one (red, green, or blue).

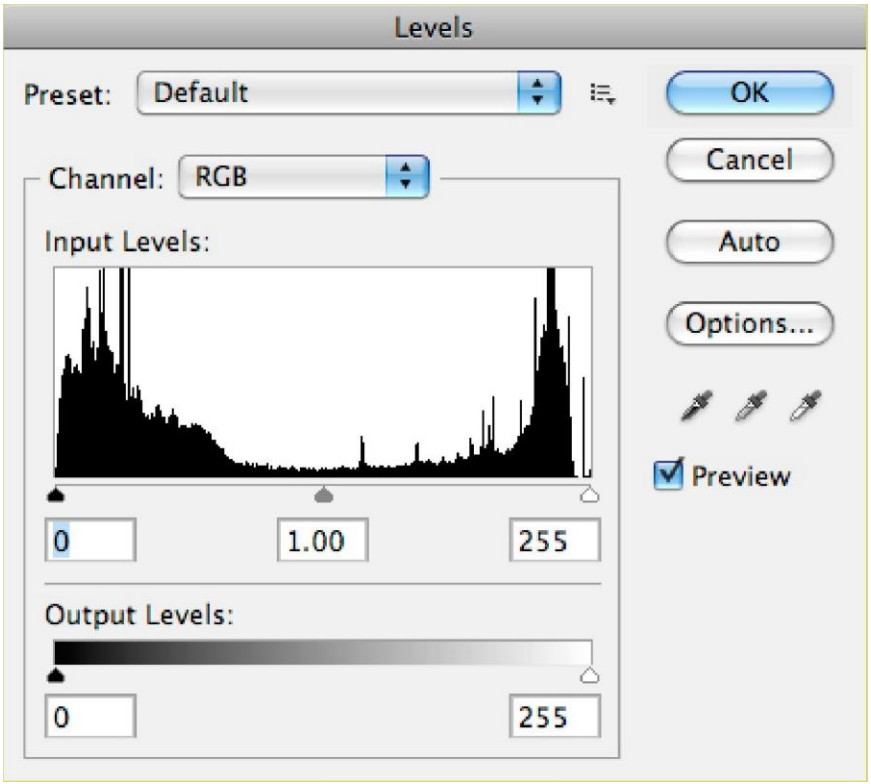


Figure 30. Levels dialog box

3. Make sure the Preview box is checked off. Choose the channel you wish to change and drag the triangles. ragging the black triangle to the right will make the shadows in your photo darker; dragging the white triangle to the ft will make the higlights in your photo lighter; dragging the gray triangle to the left will make the midtones in your hoto lighter, dragging it to the right will make the midtones darker. Yo u will be able to see the changes in your nage.

Figure 31. Underexposed photo

Figure 32. Corrected photo

Remember to save your work often. Saving frequently lessens the risk of losing the work you have been doing. To save your Photoshop document, do the following:

1. Click File > Save.
2. Navigate to the place you would like your document to be saved by using the drop down menu and the navigation window.
3. Enter the name of your document in the Save As text feld.
4. Choose a format to save your project in from the Format dropdown menu. (Figure 33)

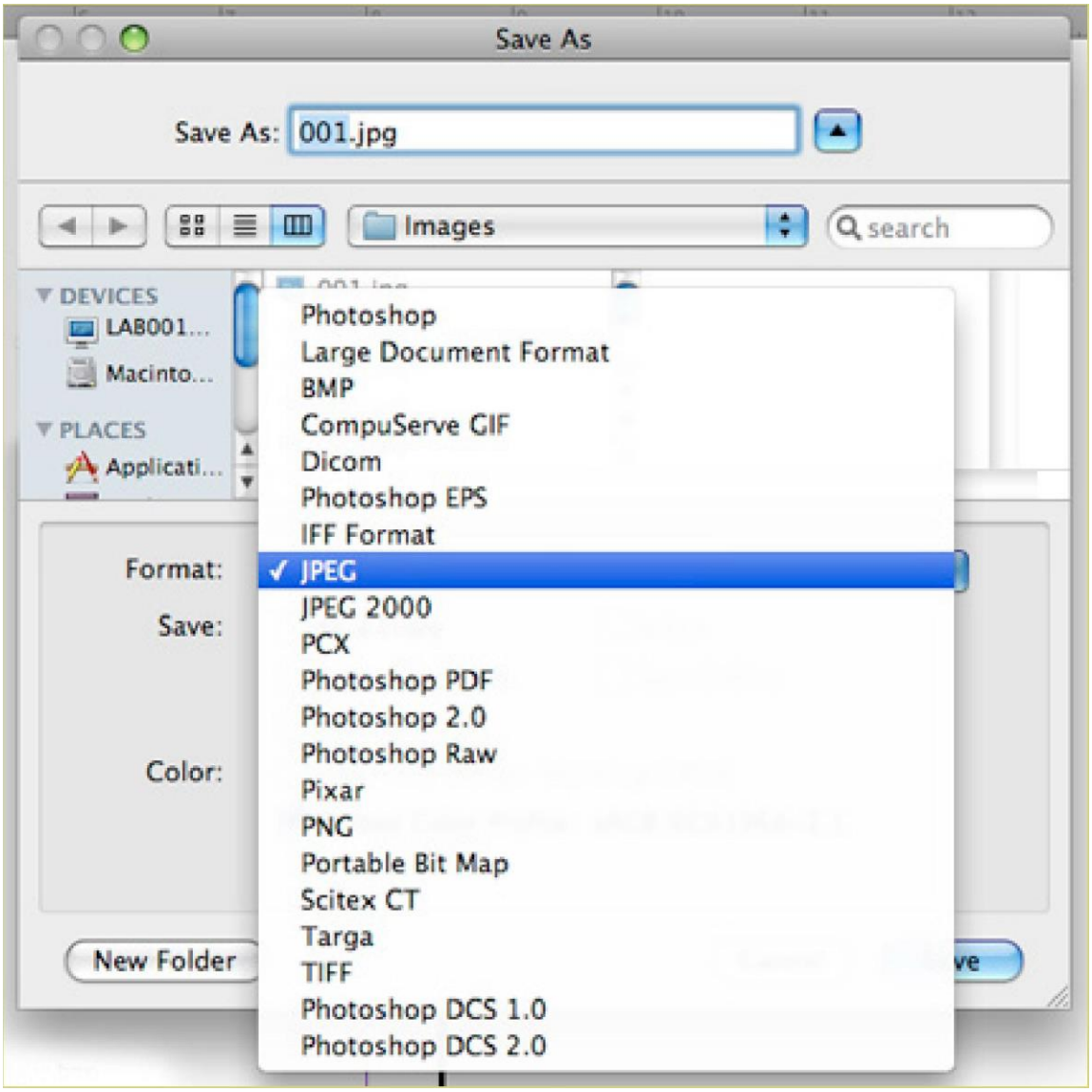


Figure 33. Saving a document

5. Click the Save button in the bottom right corner of the dialogue box.
6. Check to make sure that your document is saved in the place you intended.

Note: If you save your file as PSD (default Photoshop saving format) your layers will be preserved, but the file size will be large. If you save your fle as JPEG (a common image format) your layers will be fattened and become one layer. The fle size though will be signifcantly smaller.

LESSON-10. The principles of Web-pages creation. HTML Basics

Welcome to HTML Basics. This workshop leads you through the basics of Hyper Text Markup Language (HTML). HTML is the building block for web pages. You will learn to use HTML to author an HTML page to display in a web browser.

Objectives:

By the end of this workshop, you will be able to:

- Use a text editor to author an HTML document.
- Be able to use basic tags to denote paragraphs, emphasis or special type.
- Create hyperlinks to other documents.
- Create an email link.
- Add images to your document.
- Use a table for layout.
- Apply colors to your HTML document.

Prerequisites:

You will need a text editor, such as Notepad and an Internet browser, such as Internet Explorer or Netscape.

Q: What is Notepad and where do I get it?

A: Notepad is the default Windows text editor. On most Windows systems, click your Start

button and choose Programs then Accessories. It should be a little blue notebook.

Mac Users: SimpleText is the default text editor on the Mac. In OSX use TextEdit and change the following preferences: Select (in the preferences window) Plain text instead of Rich text and then select Ignore rich text commands in HTML files. This is very important because if you don't do this HTML codes probably won't work.

One thing you should avoid using is a word processor (like Microsoft Word) for authoring your HTML documents.

What is an html File?

HTML is a format that tells a computer how to display a web page. The documents themselves are plain text files with special "tags" or codes that a web browser uses to interpret and display information on your computer screen.

- HTML stands for Hyper Text Markup Language
- An HTML file is a text file containing small markup tags
- The markup tags tell the Web browser how to display the page
- An HTML file must have an htm or html file extension

Try It?

Open your text editor and type the following text:

```
<html>
<head>
<title>My First Webpage</title>
</head>
<body>
This is my first homepage. <b>This text is bold</b>
</body>
</html>
```

Save the file as **mypage.html**. Start your Internet browser. Select **Open** (or Open Page) in the **File** menu of your browser. A dialog box will appear. Select **Browse** (or Choose File) and locate the html file you just created - **mypage.html** - select it and click **Open**. Now you should see an address in the

dialog box, for example C:\MyDocuments\mypage.html. Click **OK**, and the browser will display the page. To view how the page should look, visit this web page:

http://profdevtrain.austincc.edu/html/mypage.html

Example Explained

What you just made is a skeleton html document. This is the minimum required information for a web document and all web documents should contain these basic components. The first tag in your html document is `<html>`. This tag tells your browser that this is the start of an html document. The last tag in your document is `</html>`. This tag tells your browser that this is the end of the html document.

The text between the `<head>` tag and the `</head>` tag is header information. Header information is not displayed in the browser window.

The text between the `<title>` tags is the title of your document. The `<title>` tag is used to uniquely identify each document and is also displayed in the title bar of the browser window.

The text between the `<body>` tags is the text that will be displayed in your browser.

The text between the `<b>` and `</b>` tags will be displayed in a bold font.

HTM or HTML Extension?

When you save an HTML file, you can use either the .htm or the .html extension. The .htm extension comes from the past when some of the commonly used software only allowed three letter extensions. It is perfectly safe to use either .html or .htm, but be consistent. **mypage.htm** and mypage.html are treated as different files by the browser.

How to View HTML Source

A good way to learn HTML is to look at how other people have coded their html pages. To find out, simply click on the View option in your browsers toolbar and select Source or Page Source. This will open a window that shows you the actual HTML of the page. Go ahead and view the source html for this page.

HTML Tags

What are HTML tags?

- HTML tags are used to mark-up HTML elements
- HTML tags are surrounded by the two characters < and >
- The surrounding characters are called angle brackets
- HTML tags normally come in pairs like and
- The first tag in a pair is the start tag, the second tag is the end tag
- The text between the start and end tags is the element content
- HTML tags are not case sensitive, means the same as <B>

Logical vs. Physical Tags

In HTML there are both logical tags and physical tags. Logical tags are designed to describe (to the browser) the enclosed text's meaning. An example of a logical tag is the `<strong>` `</strong>` tag. By placing text in between these tags you are telling the browser that the text has some greater importance. By default all browsers make the text appear bold when in between the `<strong>` and `</strong>` tags

Physical tags on the other hand provide specific instructions on how to display the text they enclose. Examples of physical tags include:

- `<b>`: Makes the text bold.
- `<big>`: Makes the text usually one size bigger than what's around it.
- `<i>`: Makes text italic.

Physical tags were invented to add style to HTML pages because style sheets were not around, though the original intention of HTML was to not have physical tags. Rather than use physical tags to style your HTML pages, you should use style sheets.

HTML Elements

Remember the HTML example from the previous page:

```
<html>
<head>
<title>My First Webpage</title>
</head>
<body>
This is my first homepage. <b>This text is bold</b>
</body>
</html>
```

This is an HTML element:

```
<b>This text is
bold</b>
```

The HTML element begins with a start tag:

The content of the HTML element is: This text is bold

The HTML element ends with an end tag:

The purpose of the tag is to define an HTML element that should be displayed as bold.

This is also an HTML element:

```
<body>
This is my first homepage. <b>This text is bold</b>
</body>
```

This HTML element starts with the start tag <body>, and ends with the end tag </body>. The purpose of the <body> tag is to define the HTML element that contains the body of the HTML document.

Nested Tags

You may have noticed in the example above, the <body> tag also contains other tags, like the tab. When you enclose an element in with multiple tags, the last tag opened should be the first tag closed. For example:

```
<p><b><em>This is NOT the proper way to close nested tags .</p></em></b>
```

```
<p><b><em>This is the proper way to close nested tags.</em></b></p>
```

Note: It doesn't matter which tag is first, but they must be closed in the proper order.

Why Use Lowercase Tags?

You may notice we've used lowercase tags even though I said that HTML tags are not case sensitive. `<B>` means the same as `<b>`. The World Wide Web Consortium (W3C), the group responsible for developing web standards, recommends lowercase tags in their HTML 4 recommendation, and XHTML (the next generation HTML) requires lowercase tags.

Tag Attributes

Tags can have attributes. Attributes can provide additional information about the HTML elements on your page. The `<tag>` tells the browser to do something, while the attribute tells the browser how to do it. For instance, if we add the bgcolor attribute, we can tell the browser that the background color of your page should be blue, like this : `<body bgcolor="blue">`.

This tag defines an HTML table: <table>. With an added border attribute, you can tell the browser that the table should have no borders: <table border="0">. Attributes always come in name/value pairs like this: name="value". Attributes are always added to the start tag of an HTML element and the value is surrounded by quotes.

Quote Styles, "red" or 'red'?

Attribute values should always be enclosed in quotes. Double style quotes are the most common, but single style quotes are also allowed. In some rare situations, like when the attribute value itself contains quotes, it is necessary to use single quotes:

name='George "machine Gun" Kelly'

> **Note:** Some tags we will discuss are deprecated, meaning the World Wide Web Consortium (W3C) the governing body that sets HTML, XML, CSS, and other technica standards decided those tags and attributes are marked for deletion in future versions of HTML and XHTML. Browsers should continue to support deprecated tags and attributes, but eventually these tags are likely to become obsolete and so future support cannot be guaranteed.

For a complete list of tags, visit W3C.org.

LESSON-11. Basic HTML Tags.Working with texts in HTML.

The most important tags in HTML are tags that define headings, paragraphs and line breaks.

Basic HTML Tags

Tag	Description
<html>	Defines an HTML document
<body>	Defines the document's body
<h1> to <h6>	Defines header 1 to header 6
<p>	Defines a paragraph
 	Inserts a single line break
<hr>	Defines a horizontal rule
<!-->	Defines a comment

Headings

Headings are defined with the <h1> to <h6> tags. <h1> defines the largest heading while <h6> defines the smallest.

<h1>This is a heading</h1>

<h2>This is a heading</h2>

<h3>This is a heading</h3>

<h4>This is a heading</h4> <h5>This is a

heading</h5> <h6> This is a heading</h6>

HTML automatically adds an extra blank line before and after a heading. A useful heading attribute is align.

<h5 align="left">I can align headings </h5>

<h5 align="center">This is a centered heading </h5>

<h5 align="right">This is a heading aligned to the right </h5

Paragraphs

Paragraphs are defined with the tag. Think of a paragraph as a block of text. You can use the align attribute with a paragraph tag as well.

This is a paragraph

this is another paragraph

Important: You must indicate paragraphs with elements. A browser ignores any indentations or blank lines in the source text. Without elements, the document becomes one large paragraph. HTML automatically adds an extra blank line before and after a paragraph.

Line Breaks

The <br> tag is used when you want to start a new line, but don't want to start a new paragraph. The <br> tag forces a line break wherever you place it. It is similar to single spacing in a document.

This Code	Would Display
This is a para graph with line breaks	This is a para

The <br> tag has no closing tag.

Horizontal Rule

The <hr> element is used for horizontal rules that act as dividers between sections, like this:

The horizontal rule does not have a closing tag. It takes attributes such as align and width. For instance:

This Code	Would Display
<hr width="50%" align="center">	----------

Comments in HTML

The comment tag is used to insert a comment in the HTML source code. A comment can be placed anywhere in the document and the browser will ignore everything inside the brackets. You can use comments to write notes to yourself, or write a helpful message to someone looking at your source code.

This Code	Would Display
This html comment would <!-- This is a comment --> be displayed like	This HTML comment would be displayed like

comment. To view the source code for this page, in your browser window, select **View** and then select **Source**.

Note: You need an exclamation point after the opening bracket `<!--` but not before the closing bracket `-->`.

HTML automatically adds an extra blank line before and after some elements, like before and after a paragraph, and before and after a heading. If you want to insert blank lines into your document, use the `<br>` tag.

Try It Out!

Open your text editor and type the following text:

```
<html>
<head>
<title>My First Webpage</title>
</head>
<body>
<h1 align="center">My First Webpage</h1>
<p>Welcome to my first web page. I am writing this page using a text editor and plain
old html.</p>
<p>By learning html, I'll be able to create web pages like a pro....<br>
which I am of course.</p>
</body>
</html>
```

Save the page as **mypage2.html**. Open the file in your Internet browser. To view how the page should look, visit this web page: **http://profdevtrain.austincc.edu/html/mypage2.html**

Other HTML Tags

As mentioned before, there are logical styles that describe what the text should be and physical styles which actually provide physical formatting. It is recommended to use the logical tags and use style sheets to style the text in those tags.

Logical Tags

Tag	Description
<abbr>	Defines an abbreviation
<acronym>	Defines an acronym
<address>	Defines an address element
<cite>	Defines a *citation*
<code>	Defines `computer code` text
<blockquote>	Defines a long quotation
<del>	Defines text
<dfn>	Defines a *definition* term
	Defines *emphasized* text
<ins>	Defines inserted text
<kbd>	Defines keyboard text

Physical Tags

Tag	Description
<b>	Defines **bold** text
<big>	Defines big text
<i>	Defines *italic* text
<small>	Defines small text
<sup>	Defines superscripted text
<sub>	Defines subscripted text
<tt>	Defines teletype text
<u>	Deprecated. Use styles instead

<pre>	Defines preformatted text
<q>	Defines a short quotation
<samp>	Defines sample computer code
	Defines **strong** text
<var>	Defines a *variable*

Character tags like `<strong>` and `<em>` produce the same physical display as `<b>` and `<i>` but are more uniformly supported across different browsers.

Some Examples:

The following paragraph uses the <blockquote> tag. In the previous sentence, the blockquote tag is enclosed ir the <samp> Sample tag.

> We the people of the United States, in order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

Although most browsers render blockquoted text by indenting it, that's not specifically what it's designed to do. It's conceivable that some future browser may render blockquoted text in some other way. However, for the time being, it is perfectly safe to indent blocks of text with the <blockquote>.

This Code	Would Display
<abbr title="World Wide Web">WWW</abbr>	WWW

When you hold your mouse pointer over the WWW, text in the title attribute will appear in.

HTML Character Entities

Some characters have a special meaning in HTML, like the less than sign (<) that defines the start of an HTML tag. If we want the browser to actually display these characters we must insert character entities in place of the actual characters themselves.

The Most Common Character Entities:

Result	Description	Entity Name	Entity Number
	non-breaking space		
<	less than	<	<
>	greater than	>	>
&	ampersand	&	&
"	quotation mark	"	"
'	apostrophe	' (does not work in IE)	'

A character entity has three parts: an ampersand (&), an entity name or an entity number, and finally a semicolon (;). The & means we are beginning a special character, the **;** means ending a special character and the letters in between are sort of an abbreviation for what it's for. To display a less than sign in an HTML document we must write: **<** or **<** The advantage of using a name instead of a number is that a name is easier to remember. The disadvantage is that not all browsers support the newest entity names, while the support for entity numbers is very good in almost all browsers.

> **Note:** Entities are case sensitive.

Non-breaking Space

The most common character entity in HTML is the non-breaking space ** **. Normally HTML will truncate spaces in your text. If you add 10 spaces in your text, HTML will remove 9 of them. To add spaces to your text, use the   character entity.

This Code	Would Display
This code would appear as this.	This code would appear as this.

This Code	Would Display
`<p> This code     would appear with three extra spaces.</p>`	This code would appear with three extra spaces.

To see a list of character entities, visit this page:

http://profdevtrain.austincc.edu/html/entities.htm

HTML Fonts

The `<font>` tag in HTML is deprecated. The World Wide Web Consortium (W3C) has removed the `<font>` tag from its recommendations. In future versions of HTML, style sheets (CSS) will be used to define the layout and display properties of HTML elements.

The `<font>` Tag Should **NOT** be used.

HTML Backgrounds

Backgrounds

The `<body>` tag has two attributes where you can specify backgrounds. The background can be a color or an image.

Bgcolor

The bgcolor attribute specifies a background-color for an HTML page. The value of this attribute can be a hexadecimal number, an RGB value, or a color name:

```
<body bgcolor="#000000">
<body bgcolor="rgb(0,0,0)">
<body bgcolor="black">
```

The lines above all set the background-color to black.

Background

The background attribute can also specify a background-image for an HTML page. The value of this attribute is the URL of the image you want to use. If the image is smaller than the browser window, the image will repeat itself until it fills the entire browser window.

```
<body background="clouds.gif">

<body background="http://profdevtrain.austincc.edu/html/graphics/clouds.gif">
```

The URL can be relative (as in the first line above) or absolute (as in the second line above). If you want to use a background image, you should keep in mind:

- Will the background image increase the loading time too much?
- Will the background image look good with other images on the page?
- Will the background image look good with the text colors on the page?
- Will the background image look good when it is repeated on the page?
- Will the background image take away the focus from the text?

Note: The bgcolor, background, and the text attributes in the <body> tag are deprecated in the latest versions of HTML (HTML 4 and XHTML). The World Wide Web Consortium (W3C) has removed these

attributes from its recommendations. Style sheets (CSS) should be used instead (to define the layout and display properties of HTML elements).

Try It Out!

Open your text editor and type the following text:

```
<head>
<title>My First Webpage</title>
</head>
<body background="http://profdevtrain.austincc.edu/html/graphics/clouds.gif"
bgcolor="#EDDD9E">
<h1 align="center">My First Webpage</h1>
<p>Welcome to my <strong>first</strong> webpage. I am writing this page using
a text
editor and plain old html.</p>
<p>By learning html, I'll be able to create webpages like a
<del>beginner</del>
pro....<br>
which I am of course.</p>
</body>
</html>
```

Save your page as **mypage3.html** and view it in your browser. To view how the page should look, visit this web page: **http://profdevtrain.austincc.edu/html/mypage3.html** Notice we gave our page a background color as well as a background image. If for some reason the web page is unable to find the picture, it will display our background color.

HTML Colors

Color Values

Colors are defined using a hexadecimal notation for the combination of red, green, and blue color values (RGB). The lowest value that can be given to one light source is 0 (hex #00). The highest value is 255 (hex #FF). This table shows the result of combining red, green, and blue:

Color	Color HEX	Color RGB
	#000000	rgb(0,0,0)
	#FF0000	rgb(255,0,0)
	#00FF00	rgb(0,255,0)
	#0000FF	rgb(0,0,255)
	#FFFF00	rgb(255,255,0)
	#00FFFF	rgb(0,255,255)
	#FF00FF	rgb(255,0,255)
	#C0C0C0	rgb(192,192,192)
	#FFFFFF	rgb(255,255,255)

Color Names

A collection of color names is supported by most browsers. To view a table of color names that are supported by most browsers visit this web page:

http://profdevtrain.austincc.edu/html/color_names.htm

Note: Only 16 **color names** are supported by the W3C HTML 4.0 standard (aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white, and yellow). For all other colors you should use the **Color HEX** value.

	#FAEBD7	AntiqueWhite
	#7FFFD4	Aquamarine
	#000000	Black
	#0000FF	Blue
	#8A2BE2	BlueViolet
	#A52A2A	Brown

Web Safe Colors

A few years ago, when most computers supported only 256 different colors, a list of 216 Web Safe Colors was suggested as a Web standard. The reason for this was that the Microsoft and Mac operating system used 40 different "reserved" fixed system colors (about 20 each). This 216 cross platform web safe color palette was originally created to ensure that all computers would display all colors correctly when running a 256 color palette. To view the 216 Cross Platform Colors visit this web page:

http://profdevtrain.austincc.edu/html/216.html

16 Million Different Colors

The combination of Red, Green and Blue values from 0 to 255 gives a total of more than 16 million different colors to play with (256 x 256 x 256). Most modern monitors are capable of displaying at least 16,384 different colors. To assist you in using color schemes, check out

http://wellstyled.com/tools/colorscheme2/index-en.html. This site lets you test different color schemes for page backgrounds, text and links.

Lesson-12. Tables in HTML

Tables are defined with the `<table>` tag. A table is divided into rows (with the `<tr>` tag), and each row is divided into data cells (with the `<td>` tag). The letters td stands for table data, which is the content of a data cell. A data cell can contain text, images, lists, paragraphs, forms, horizontal rules, tables, etc.

This Code	Would Display
<table> <tr> <td>row 1, cell 1</td> <td>row 1, cell 2</td> </tr> <tr>	row 1, cell 1 row 1, cell 2 row 2, cell 1 row 2, cell 2

Tables and the Border Attribute

To display a table with borders, you will use the border attribute.

This Code	Would Display
<table border="1"> <tr> <td>Row 1, cell 1</td> <td>Row 1, cell 2</td>	row 1, cell 1 row 1,

```
<table
border="5">
```

and....

```
<td>Row 1,
<td>Row cell
1</td>
</tr>  cell
```

This Code	Would Display

`<table border="5">`
`<tr>`
`<td>Row 1, cell 1</td>`
`<td>Row 1, cell 2</td>`
`</tr>`
`</table>`
	row 1, cell 1 | row 1, cell 2

Open up your text editor. Type in your `<html>`, `<head>` and `<body>` tags. From here on I will only be writing what goes between the `<body>` tags. Type in the following:

```
<table border="1">
<tr>
<td>Tables can be used to layout information</td>
<td>  <img
src="http://profdevtrain.austincc.edu/html/graphics/chef.gif">  
</td>
</tr>
</table>
```

Save your page as **mytable1.html** and view it in your browser. To see how your page should look visit this web page:
http://profdevtrain.austincc.edu/html/mytable1.html

Headings in a Table

Headings in a table are defined with the `<th>` tag.

This code	Would Display
<table border="1"> <tr> <th>Heading</th> <th>Another Heading</th> </tr> <tr> <td>row 1, cell 1</td> <td>row 1, cell 2</td> </tr> <tr> <td>row 2, cell 1</td> <td>row 2, cell 2</td> </tr> </table>	<table><tr><th>Heading</th><th>Another Heading</th></tr><tr><td>row 1, cell 1</td><td>row 1, cell 2</td></tr><tr><td>row 2, cell 1</td><td>row 2, cell 2</td></tr></table>

Cell Padding and Spacing

The <table> tag has two attributes known as cellspacing and cellpadding. Here is a table example without these properties. These properties may be used separately or together.

	Would Display
<table border="1"> <tr> <td>some text</td> <td>some text</td> </tr> <tr> </tr> </table>	<table><tr><td>some</td><td>some</td></tr><tr><td>some</td><td>some</td></tr></table>

Cellspacing is the pixel width between the individual data cells in the table (The thickness of the lines making the table grid). The default is zero. If the border is set at 0, the cellspacing lines will be invisible.

This Code	Would Display

`<table border="1" cellspacing="5">`
`<tr>`
`<td>some text</td>`
`<td>some text</td>`
`</tr><tr>`
	some text some text
	some text some text

Cellpadding is the pixel space between the cell contents and the cell border. The default for this property is also zero. This feature is not used often, but sometimes comes in handy when you have your borders turned on and you want the contents to be away from the border a bit for easy viewing. Cellpadding is invisible, even with the border property turned on. Cellpadding can be handled in a style sheet.

This Code	Would Display

`<table border="1" cellpadding="10">`
`<tr>`
`<td>some text</td>`
`<td>some text</td>`
`</tr><tr>`
	some text / some text
	some text / some text

Table Tags

Tag	Description
<table>	Defines a table
<th>	Defines a table header
<tr>	Defines a table row
<td>	Defines a table cell
<caption>	Defines a table caption
<colgro	Defines groups of table columns
<col>	Defines the attribute values for one or more

Table Size

Table Width

The width attribute can be used to define the width of your table. It can be defined as a fixed width or a relative width. A fixed table width is one where the width of the table is specified in pixels. For example, this code, `<table width="550">`, will produce a table that is 550 pixels wide. A relative table

width is specified as a percentage of the width of the visitor's viewing window. Hence this code, `<table width="80%">`, will produce a table that occupies 80 percent of the screen.

This table width is 250 pixels

This table width is 50%

There are arguments in favor of giving your tables a relative width because such table widths yield pages that work regardless of the visitor's screen resolution. For example, a table width of 100% will always span the entire width of the browser window whether the visitor has a 800x600 display or a 1024x768 display (etc). Your visitor never needs to scroll horizontally to read your page, something that is regarded by most people as being very annoying.

HTML Layout - Using Tables

One very common practice with HTML, is to use HTML tables to format the layout of an HTML page. A part of this page is formatted with two columns. As you can see on this page, there is a left column and a right column.

An HTML <table> is used to divide a part of this Web page into two columns. The trick is to use a table without borders, and maybe a little extra cell-padding. No matter how much text you add to this page, it will stay inside its column borders.

This text is displayed in the left column.

Try It Out!

Let's put everything you've learned together to create a simple page. Open your text editor and type the following text:

```
<html
>
<head
>

<title>My First Web
Page </title> </head>
<body>

<table width="90%"
 cellpadding="5" cellspacing="0"
 > <tr bgcolor="#EDDD9E">

   <td width="200" valign="top"><img
src="graphics/contact.gif" width="100"
height="100"></td>

 <td valign="top"><h1
 align="right">Janet Doeson</h1>
 <h3 align="right">Technical
 Specialist</h3></td> </tr> <tr>

  <td
   width="200
   ">
   <h3>Menu</
   h3> <ul>

  <li><a href="home.html">Home</a></li>
  <li> <a href="faq.html">FAQ</a></li>
  <li> <a
  href="contact.html">Contact</a></li>
```

 <a href="**Ошибка: недопустимый объект гиперссылки.**"> </td>

<td valign="top"><h2 align="center">Welcome!</h2>

Welcome to my first webpage. I created this webpage without the assistance of a webpage editor. Just my little text editor and a keen understanding of html.

Look around. Notice I'm able to use paragraphs, lists and headings. You may not be able to tell, but the layout is done with a table. I'm very clever. <blockquote>

I always wanted to be somebody, but now I realize I should have been more specific.

<cite>Lily Tomlin </cite>
</blockquote> </td> </tr>
</table>

<hr width="90%"
align="left">
<address>

Janet Doeson
 Technical Specialist
512.555.5555 </address> Contact me at <a
href="mailto:jdoeson@acme.com">jdoeson@acme.com</
a>

```
dy>
</ht
ml>
```

Save your page as **mytable2.html** and view it in your browser. To see how your page should look visit this web page:
http://profdevtrain.austincc.edu/html/mytable2.html

I have indented some of the HTML code in the above example. Indenting the code can make your HTML document easier to read.

Create Your Own Page

It's time to create your own page. Use your text editor to create a page which contains the following:

- the required HTML page codes
- link to another web page
- an email link
- a picture/graphic
- a list of information

Save the file as **xyhtml_basics.html** where xy is your initials. Email the file to jmorales@austincc.edu.

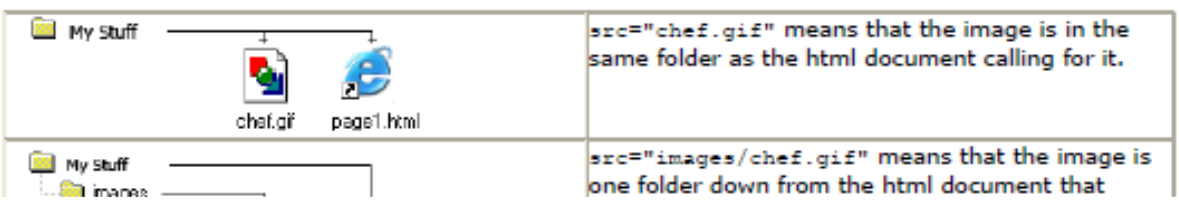
Lesson-13. HTML Images

The Image Tag and the Src Attribute

The `<img>` tag is empty, which means that it contains attributes only and it has no closing tag. To display an image on a page, you need to use the src attribute. Src stands for "source". The value of the src attribute is the URL of the image you want to display on your page. The syntax of defining an image:

This Code	Would Display
`<img src="graphics/chef.gif">`	

Not only does the source attribute specify what image to use, but where the image is located. The above image, graphics/chef.gif, means that the browser will look for the image name **chef.gif** in a **graphics** folder in the same folder as the html document itself.



The browser puts the image where the image tag occurs in the document. If you put an image tag between two paragraphs, the browser shows the first paragraph, then the image, and then the second paragraph.

The Alt Attribute

The alt attribute is used to define an alternate text for an image. The value of the alt attribute is author-defined text:

```
<img src="graphics/chef.gif" alt="Smiling Happy Chef
">
```

The alt attribute tells the reader what he or she is missing on a page if the browser can't load images. The browser will then display the alternate text instead of the image. It is a good practice to include the alt attribute for each image on a page, to improve the display and usefulness of your document for people who have text-only browsers or use screen readers.

Image Dimensions

When you have an image, the browser usually figures out how big the image is all by itself. If you put in the image dimensions in pixels however, the browser simply reserves a space for the image, then

loads the rest of the page. Once the entire page is loads it can go back and fill in the images. Without dimensions, when it runs into an image, the browser has to pause loading the page, load the image, then continue loading the page. The chef image would then be:

```
<img src="graphics/chef.gif" width="130" height="101"
alt="Smiling Happy Chef">
```

Open the file **mypage2.html** in your text editor and add code highlighted in bold:

```
<html>
<head>
<title>My First Webpage</title>
</head>
<body>
<h1 align="center">My First Web page</h1>
<p>Welcome to my first webpage. I am writing this page using a text editor and plain old html.</p>
<p>By learning html, I'll be able to create web pages like a pro....<br>
which I am of course.</p>
<!-- Who would have guessed how easy this would be :) -->
<p><img src="graphics/chef.gif" width="130" height="101" alt="Smiling Happy Chef"
align="center"></p>
<p align="center">This is my Chef</p>
</body>
</html>
```

Save your page as **mypage5.html** and view it in your browser. To see how your page should look visit this web page:
http://profdevtrain.austincc.edu/html/mypage5.html

LESSON-14. HTML Lists

HTML provides a simple way to show unordered lists (bullet lists) or ordered lists (numbered lists).

Unordered Lists

An unordered list is a list of items marked with bullets (typically small black circles). An unordered list starts with the <ul> tag. Each list item starts with the <li> tag.

This Code	Would Display
  - Coffee - Milk 	▪ Coffee ▪ Milk

Ordered Lists

An ordered list is also a list of items. The list items are marked with numbers. An ordered list starts with the <ol> tag. Each list item starts with the <li> tag.

This Code	Would Display
  - Coffee - Milk 	1. Coffee 2. Milk

Inside a list item you can put paragraphs, line breaks, images, links, other lists, etc.

Definition Lists

Definition lists consist of two parts: a **term** and a **description**. To mark up a definition list, you need

three HTML elements; a container <dl>, a definition term <dt>, and a definition description <dd>.

This Code	Would Display
<dl> <dt>Cascading Style Sheets</dt> <dd>Style sheets are used to provide	Cascading Style Sheets Style sheets are used to provide presentational suggestions for documents marked up in HTML.

Inside a definition-list definition (the <dd> tag) you can put paragraphs, line breaks, images, links, other lists, etc

Try It Out

Open your text editor and type the following:

```
<html>
<head>
<title>My First Webpage</title>
</head>
<body bgcolor="#EDDD9E">
<h1 align="center">My First Webpage</h1>
<p>Welcome to my <strong>first</strong> webpage. I am writing this page using a text
editor and plain old html.</p>
<p>By learning html, I'll be able to create web pages like a pro....<br>
which I am of course.</p>
Here's what I've learned:
<ul>
<li>How to use HTML tags</li>
<li>How to use HTML colors</li>
<li>How to create Lists</li>
</ul>
</body>
</html>
```

Save your page as **mypage4.html** and view it in your browser. To see how your page should look visit this web page:
http://profdevtrain.austincc.edu/html/mypage4.html

HTML Links

HTML uses the `<a>` anchor tag to create a link to another document or web page.

The Anchor Tag and the Href Attribute

An anchor can point to any resource on the Web: an HTML page, an image, a sound file, a movie, etc. The syntax of creating an anchor:

```
<a href="url">Text to be displayed</a>
```

The `<a>` tag is used to create an anchor to link from, the href attribute is used to tell the address of the document or page we are linking to, and the words between the open and close of the anchor tag will be displayed as a hyperlink.

This Code	Would Display
<a	Visit ACC!

The Target Attribute

With the target attribute, you can define **where** the linked document will be opened. By default, the

link will open in the current window. The code below will open the document in a new browser window:

```
<a href=http://www.austincc.edu/ target="_blank">Visit ACC!</a>
```

Email Links

To create an email link, you will use mailto: plus your email address. Here is a link to ACC's Help Desk:

```
<a href="mailto:helpdesk@austincc.edu">Email Help Desk</a>
```

To add a subject for the email message, you would add `?subject=` after the email address. For example:

```
<a href="mailto:helpdesk@austincc.edu?subject=Email Assistance">Email Help Desk</a>
```

The Anchor Tag and the Name Attribute

The name attribute is used to create a named anchor. When using named anchors we can create links that can jump directly to a specific section on a page, instead of letting the user scroll around to find what he/she is looking for. Unlike an anchor that uses href, a named anchor doesn't change the appearance of the text (unless you set styles for that anchor) or indicate in any way that there is anything special about the text. Below is the syntax of a named anchor:

```
a name="top">Text to be displayed</a>
```

To link directly to the top section, add a # sign and the name of the anchor to the end of a URL, like this:

This Code	Would Display

`f="http://profdevtrain.austincc.edu/html`
`links.html#top">Back to top of page </a>`
 	
`yperlink to the top of the page from`
`hin the file 10links.html will look like`
`s:`
 	
`href="#top">Back to top of page </a>`
	Back to top of page
	
	Back to top of page

Note: Always add a trailing slash to subfolder references. If you link like this: href="http://profdevtrain.austincc.edu/html", you will generate two HTTP requests to the server, because the server will add a slash to the address and create a new request like this: href="http://profdevtrain.austincc.edu/html/"

Named anchors are often used to create "table of contents" at the beginning of a large document. Each chapter within the document is given a named anchor, and links to each of these anchors are put at the top of the document. If a browser cannot find a named anchor that has been specified, it goes to the top of the document. No error occurs.

ESSON-15. Website Design

Web Site Development with FrontPage/Swish

STIMULATE 5
International Training Program about INFORMATION in 2005

ourse Overview:

is web design course teaches how to plan, organize, and create a web e from start to finish.
the end of this design course, students will have created a well-designed eb site and publish it.

esson 1: Creating Web Pages

is lesson teaches you how to work with text and hyperlinks; add pictures, imations, clip art, and files; format lists; position objects; design a edback form; make a photo gallery; design a Web site structure; and eate a Web site.

esson 2: Enhancing and Publishing a Web Site

this lesson, you will learn how to set up navigation, add shared borders d link bars to pages, insert page banners, apply and customize a aphical theme, check spelling and replace text across the Web site, sort d organize files and folders, view Web site reports, and preview and blish the finished Web site.

esson 3: Using Swish

this lesson, you will learn how to design animation banners and icons.

pening FrontPage

run Microsoft FrontPage, do the following:

- On the Windows taskbar, click the **Start** button  , point to **Programs**, and then click **Microsoft FrontPage**.

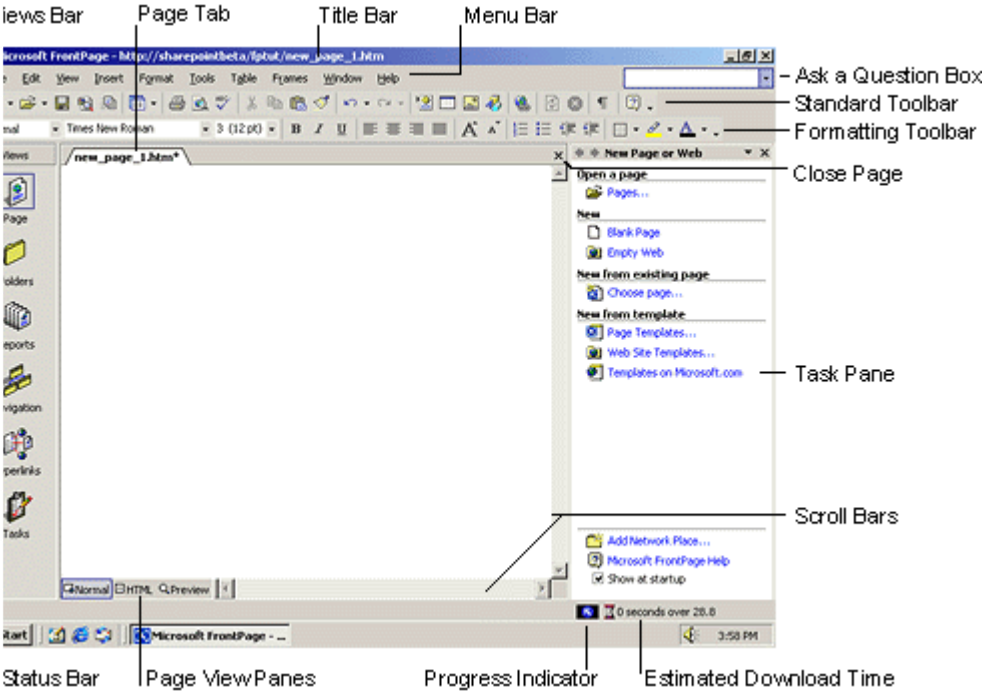
  If this is the first time you've used FrontPage, the program opens and displays a blank page ready for editing.

  Notes
  - If FrontPage has been used to edit another Web site, it will open the last Web site automatically.
  - To close a Web site: on the **File** menu, click **Close Web**.

'orkspace Overview

ntPage 2002 has an integrated interface that helps you create and edit Web pages as ll as manage entire Web sites within one application. All toolbars and menu behaviors e consistent with Microsoft Office XP programs, so toolbars and menus can be fully stomized. You can also use convenient keyboard shortcuts to accelerate common tasks ch as opening Web sites and pages, printing, and many other commands.

e graphic and table below highlight some of the commonly used elements of the ntPage 2002 interface.



em	Description
ge Tab	An easy way to select the page you want

	when you have several pages open.
tle Bar	Displays the name of the current page, and its location in your Web site.
enu Bar	Contains menus like **File**, **Edit**, **View**, and **Insert**, and is the starting point for many of the tasks you will undertake in FrontPage.
k a Question Box	To find more information about a procedure in FrontPage, type a question in the **Ask a Question** box, which accesses the online Help system.
ose Page	This button closes the page that is currently in view.
roll Bars	These let you move the page so a different portion is displayed.
atus Bar	Represents the state of a current task. For instance, the Status Bar may display the text "Retrieving Index.htm" when opening the home page, or show the destination of a hyperlink when you move your mouse cursor over a link in the **Normal** pane.
ge View Panes	These represent the different panes of the workspace. For example, the **Normal** pane is where you will do most of your work in this tutorial. Other panes are the **HTML** pane and the **Preview** pane.
ogress Indicator	Shows the status of a current action.
timated Download Time	Gives you an idea of how long it will take a user to view your page in a Web browser.
sk Pane	A pane within Office XP programs that provide commonly used commands. Its location and small size allow you to use these commands while still working on your files.
andard and **Formatting** toolbars	Displayed by default. They provide easy access to the commands you will use most often when working in FrontPage.
ews bar	What you see in the main program window depends on the currently selected view. The icons on the **Views** bar provide different ways of looking at the information on your page or in your Web site.

› create a home page

e home page is the front door to your Web site. It provides information about the ıntent or subject matter of your site in order to spark interest in your site visitors. The me page also contains the links to the other pages in your Web site.

1. On the blank page in **Page** view, type **Welcome to Stimulate5!** and then press ENTER.

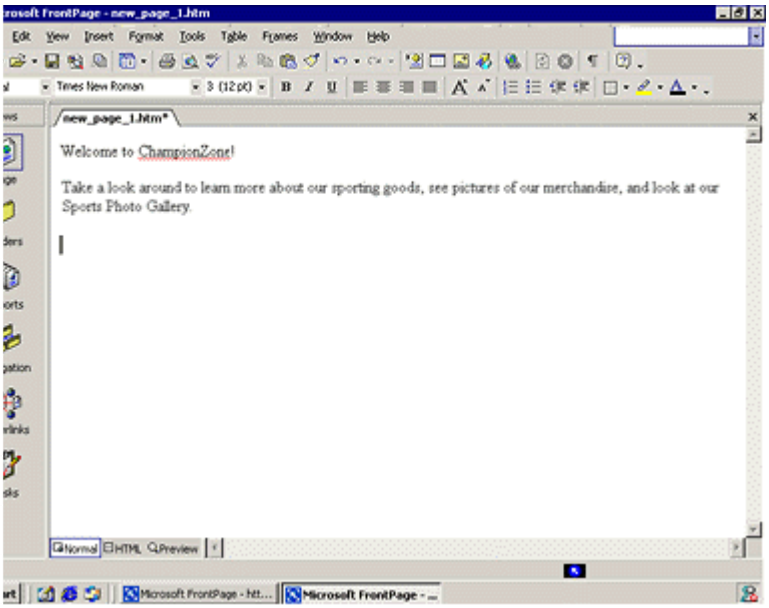
   Just like in a word processor, pressing ENTER puts the cursor on a new line.

2. Next, type the sentence **Take a look around to learn more about our sporting goods, see pictures of our merchandise, and look at our Sports Photo Gallery**.

3. Press ENTER.

   Most of the content for your Stimulate5 site is already created. When you're ready to make your own Web site, FrontPage lets you import any of your existing documents directly onto your Web pages without having to retype anything.

   Your page should now look like this:



xt, you will add a picture to the Web page. Pictures can be scanned photographs, ıawings, or computer graphics created in a drawing or image-editing program.

r this example, the picture you'll insert is a graphic of the FrontPage logo:

› insert a graphic on the home page

1. On the **Insert** menu, point to **Picture**, and then click **From File**.

   FrontPage displays the **Picture** dialog box.

   Note The picture file you'll insert is located in the Tutorial folder that was installed with the FrontPage program files.

2. Next to **Look In**, select the hard disk where you installed the tutorial.

   You most likely installed the tutorial on your C or D drive.

3. Navigate to the folder named **FPTutor2002** by double-clicking each folder in this path until the **Look in** box displays **FPTutor2002**.

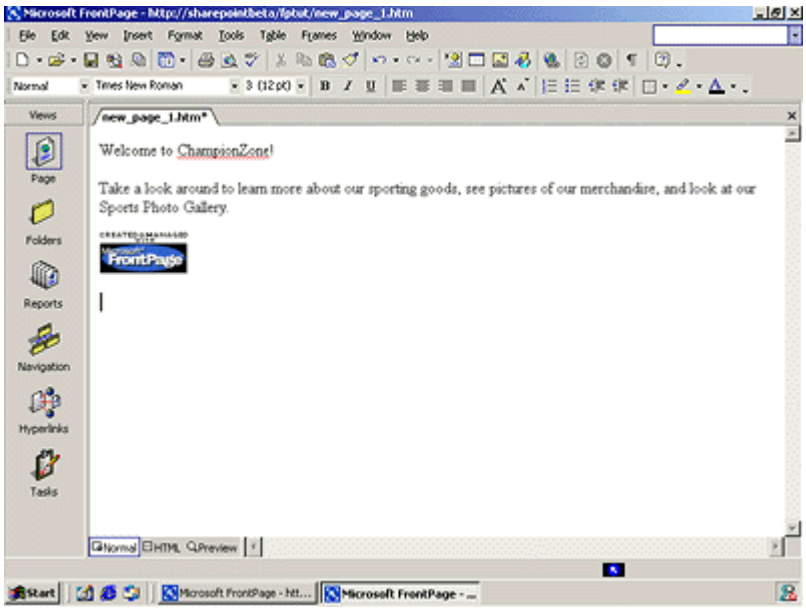
   You will see several files in the FPTutor2002 folder. By default, FrontPage searches for picture files when you are inserting a picture.

4. Click the file named **frontpage**, and then click **Insert**.

   FrontPage inserts the selected picture file on the current page. It is a graphic that your site visitors will be able to click to learn more about FrontPage 2002.

5. Press ENTER to create a new line.

   Your page should now look like this:



rely inserting a picture of a button doesn't mean that anything will happen when meone clicks it in a Web browser. To make a picture or a word clickable, it must have a perlink associated with it.

nyperlink is a pointer from text or from a picture to another page or file on the World de Web or on an intranet. On the World Wide Web, hyperlinks are the primary way to vigate between pages and other Web sites.

the next steps, you'll create a hyperlink from the graphic you just placed on the home ge.

create a hyperlink from a picture

1. On the home page, click the picture of the FrontPage 2002 button you inserted.

   When a picture is selected, it is shown with file handles — eight small squares around the outline of the picture. These can be used to resize a picture or change its appearance. When a picture is selected, FrontPage also displays the **Pictures** toolbar. The **Pictures** toolbar provides picture editing and formatting tools, which you'll learn about later.

   Note If the **Pictures** toolbar doesn't appear automatically, on **View** menu, point to **Toolbars**, and then click **Pictures**.

2. On the **Insert** menu, click **Hyperlink**.

   FrontPage displays the **Insert Hyperlink** dialog box. Here, you specify the target of the hyperlink you are creating.

3. In the **Address** box, type **www.microsoft.com/frontpage**.

o save the current page

w that you've invested some time and completed a number of steps, it's a good idea to ve your page.

1. On the **File** menu, click **Save As**.

   FrontPage displays the **Save As** dialog box. Here, you can specify the location for the current page, and review or change the page title, the file name, and the file type.

2. In the **Save As** dialog box, click the **My Documents** icon on the vertical places bar.

   The contents of your **My Documents** folder are displayed. If no files are displayed in the file list, then you currently do not have any other Web pages stored here.

3. Next to the **Page title** field, click the **Change title** button.

   FrontPage displays the **Set Page Title** dialog box. Here, the default page title is based on the first line of text on the current page. A title identifies the contents of a page when it is displayed in a Web browser. For this tutorial, you'll change the page title to something more descriptive.

4. In the **Set Page title** box, type **Home Page** and then click **OK**.

5. In the **File name** box, change the suggested text to **homepage**, and then click **Save**.

   FrontPage saves the current page.

ıge View Options

ıile creating the home page, you've worked exclusively in normal **Page** view, but there ɛ three different ways you can choose to look at the current page.

ı display HTML tags on the current page

- In **Page** view  , click **Reveal Tags** on the **View** menu.
- FrontPage displays graphical representations of standard HTML tags for the current page. This display is useful for people who want to know where HTML tags are placed while they design their pages.
- To hide the tags, click **Reveal Tags** on the **View** menu a second time.

ı display the HTML of the current page

- In **Page** view, click the **HTML** button at the bottom of the page.

  This causes FrontPage to display the HTML code that it has created so far while you were designing the home page. Web browsers decode these instructions to display the page. The **HTML** pane is intended for experienced Web developers and page designers who want to customize the HTML that FrontPage creates.

- If you want to set your preferences for the way FrontPage will generate HTML code, click **Page Options** on the **Tools** menu, and then click the **HTML Source** tab. If you're not experienced in HTML, you don't need to make any changes here. Click **Cancel** to close the **Page Options** dialog box.
- Click the **Normal** button at the bottom of the page to return to the **Normal** pane.

ı preview the current page

- Click the **Preview** button at the bottom of the page.

  Note If you do not have Microsoft Internet Explorer installed on your computer, the **Preview** tab will not be displayed, and you will not be able to preview your pages this way. For more information, see Before You Begin.

- Click the **Normal** button at the bottom of the page to return to the **Normal** pane once again.

reating a Web site with FrontPage

Web site is the collection of a home page and its associated pages, graphics, documents, ultimedia, and other files. Web sites are stored on a Web server or on a computer's hard ve. FrontPage-based Web sites also contain files that support FrontPage-specific nctionality and allow Web sites to be opened, copied, edited, published, and ministered with FrontPage.

nen you save your pages to a Web site, FrontPage can automatically manage and repair perlinks, organize files and folders, maintain dynamic link bars, check spelling across all ges in the Web site, and generate reports that point out problems with your pages and es.

o create a new Web site

1. On the **File** menu, click **Close** to close the current page.
2. On the **File** menu, point to **New**, and then click **Page or Web**.

   FrontPage displays the **New Page or Web** task pane. Here, you can choose from several Web site templates and wizards, specify where you want to save your Web site, and specify what you want to call it.
3. Under **New from template**, click **Web Site Templates**.
4. Click **One Page Web**, and then press TAB.

   Pressing the TAB key moves the selection to the field where you specify the name and location of the new Web site.
5. In the **Specify the location of the new Web** box, change the suggested name to **<*drive*>:\My Documents\My Webs\ Stimulate5**, and then click **OK**.

   Notes

   - <***drive***> represents your local hard disk, which is usually C:\ or D:\.
   - FrontPage creates a new Web site named "Stimulate5," and displays its name and location in the title bar at the top of the FrontPage program window.
   - Because you'll be working with several files in your Web site, FrontPage also displays the **Folder List**, where you can see the files and folders in your current Web site, similar to files and folders in Microsoft Windows Explorer. You'll learn how to use the **Folder List** later, in Lesson 2.
6. If the **Folder List** is not showing, do the following:

- On the standard toolbar, click the arrow to the right of **Toggle Pane**  , and then click **Folder List**.

'. Click the **Navigation** icon  on the **Views** bar.

When you have a Web site open, the icons on the **Views** bar let you look at the information in your Web site in different ways.

Navigation view shows a graphical representation of the structure of your Web site. Because you created a one-page Web site, FrontPage has automatically designated it as the Web site's home page — indicated with a small icon of a house  .

While in **Navigation** view, FrontPage also displays the **Navigation** toolbar. You can drag the **Navigation** toolbar anywhere on your screen.

Next to the **Views** bar, FrontPage displays the optional **Folder List**, just like it did in **Page** view.

reating Web site Content

w that the home page is part of the current Web site, you will create the content for the ıer pages in the Stimulate5 Web site.

lit the About Us page

1. Click the **Navigation** icon on the **Views** bar to switch back to **Navigation** view.

   Notes

   - The **Folder List** now shows the two picture files you saved to the current Web site. The file Index.htm is the new home page. You can later discard the remaining copy of the home page from your **My Documents** folder.

   - In the **Folder List**, the file names of the other pages were automatically derived from the page titles you typed into the pages in **Navigation** view. For this tutorial, we won't change the names.

2. Double-click the **About Us** page to open it in **Page** view.

   This page will provide some background about your fictional company for site visitors. For this tutorial, we have provided this text for you, so you can simply insert it on the page without having to type it.

esigning a Page

help the reader differentiate the paragraph headings, list of products, and event details ıt the text on this page talks about, you will add some pictures, format paragraph ʻles, and create a bulleted list.

ı create a bulleted list

1. With the **Products** page still displayed in **Page** view, find the words "Team Bag."

   If the entire product list is not visible, use the scrollbar to bring the entire list into view.

   The list begins with "Team Bag" and ends with "Goal Netting."

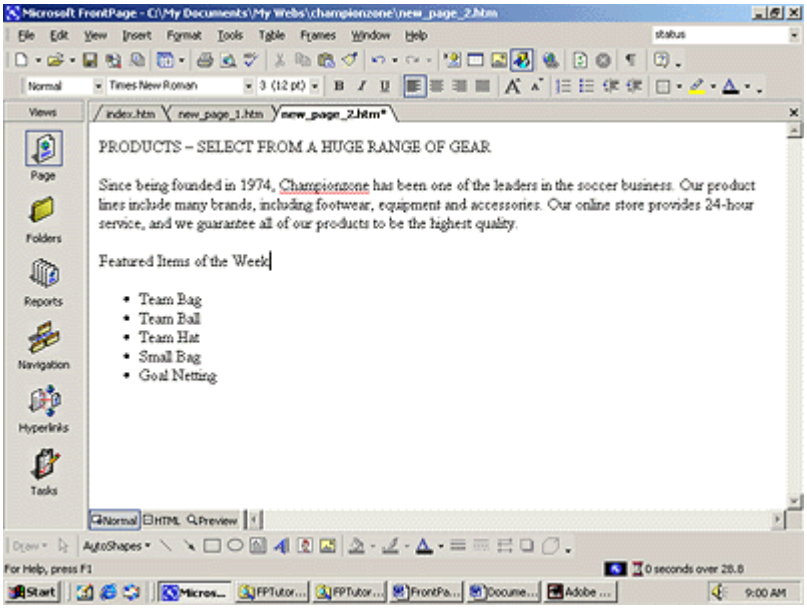
2. Click just to the left of the letter T in "Team Bag," hold down SHIFT, click just after the word "Netting," and then release SHIFT. This will select the entire list.

3. On the **Formatting** toolbar, click the **Bullets**  button.

   FrontPage converts the selected text to a bulleted list.

4. Click anywhere on the page to deselect the list.

   Your page should now look like this:



u can also create numbered lists with FrontPage. When you add new items to a mbered list, FrontPage automatically numbers them sequentially. You can add to lleted and numbered lists by pressing ENTER after an item in the list. To end a list, ess ENTER twice after typing the last list item.

xt, you will place four pictures on the current page and use positioning features in ontPage to align the pictures with the paragraphs they are associated with. This will eate a more interesting page layout.

o position pictures with text

1. With the **Products** page still displayed in **Page** view, place your cursor after the text "Featured Items of the Week."

2. Click **Insert Picture From File** on the standard toolbar.

   When you last inserted a picture, you did not have a Web site open, and FrontPage automatically displayed the **Select File** dialog box. Now that a Web site is open, FrontPage assumes you want to work with pictures that are already part of your Web site, and therefore displays the **Picture** dialog box.

   Because you haven't yet added the picture you want to the current Web site, click the drop-down menu next to **Look in**, and navigate to the **FPTutor2002** folder.

   Note The folder is located at **<*drive*>:\FPTutor2002**, where <***drive***> represents the hard disk where you installed the tutorial.

4. Click the file named **FPTutor001**, and then click **Insert**.

   FrontPage inserts a picture of a soccer ball just after the text "Featured Items of the Week."

5. Next, click the picture of the soccer ball to select it.

6. On the **Format** menu, click **Position**.

   FrontPage displays the **Position** dialog box.

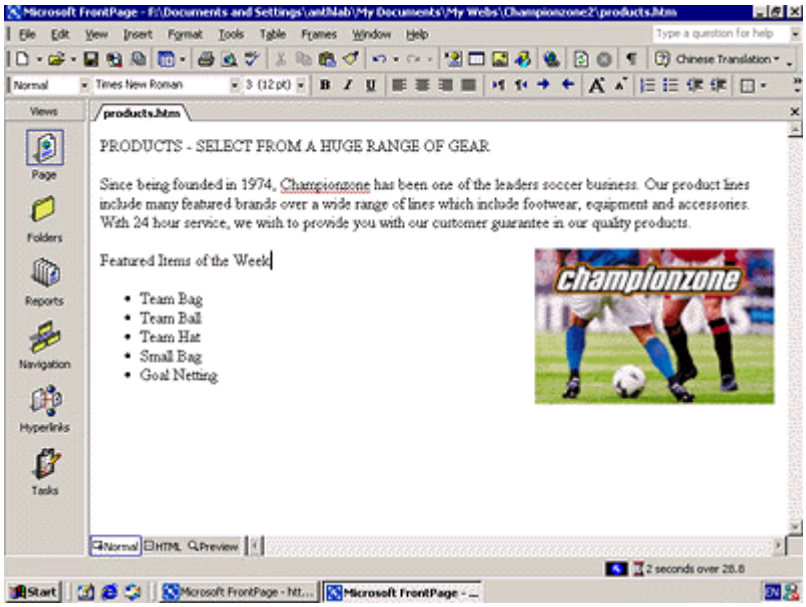
7. Under **Wrapping style**, click **Right**, and then click **OK**.

   The picture is aligned with the right margin of the current page, and the bulleted list flows to the left of it.

8. On the toolbar, click the **Save** button to save changes to the **Products** page.

9. In the **Save Embedded Files** dialog box, click **OK**.

   Your page should now look like this:



u can either place pictures one by one in this way, or you can import the pictures you l use on your pages all at once. While importing single files is done in **Page** view, serting a group of files or entire folders is done in **Folders** view.

To create a feedback form

1. In **Page** view, press CTRL+END to quickly jump to the bottom of the current page, or scroll all the way down using the scroll bar.
2. On the new, blank line, type **Give Us Your Feedback!** and then press ENTER.
3. On the **Insert** menu, point to **Form**, and then click **Textbox**.

   FrontPage inserts a new form with a text box on the current page. The dashed lines indicate the form's boundary. By default, the new form also contains **Submit** and **Reset** buttons.

Next, you will customize the default form by adding more form-fields and form-field labels, so site visitors know what kind of information you want them to enter.

To customize the form

1. Click on the Submit button, and then click **Center**  on the toolbar.
2. Press the left arrow to place the cursor before the **Submit** button, and press ENTER.

   Pressing ENTER adds a blank line to the form.
3. Click the text box and press the back arrow to place the cursor at the beginning of the form.
4. On the first line, type **Your Name:** and then press SHIFT+ENTER.

   Holding SHIFT while pressing ENTER creates a line break. Line breaks are useful for spacing lines of text more closely together than standard paragraph spacing.
5. Move the cursor after the text box, and press ENTER.
6. On the next line, type **Your E-mail Address:** and then press SHIFT+ENTER.
7. On the **Insert** menu, point to **Form**, click **Text Box** once more, and then press ENTER.
8. On the next line, type **Your comments:** and then press SHIFT+ENTER.
9. On the **Insert** menu, point to **Form**, and then click **Text Area**.

   FrontPage inserts a scrolling text input field into the form.
10. Double-click the scrolling text box you just inserted.

    FrontPage displays the **Scrolling Text Box Properties** dialog box. Here, you can change the appearance of the text box.

.0. In the **TextArea Box Properties** dialog box, change the **Width** in characters to 30 and the Number of lines to 5, and then click **OK**.

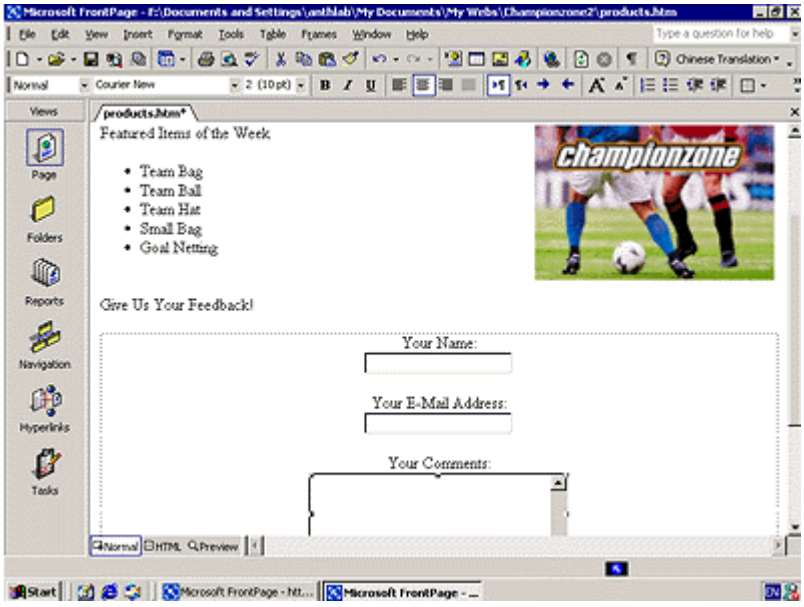
The scrolling text box has increased in size, which will encourage site visitors to write more than just a few lines.

Now that your form and the **Products** page are finished, it's a good idea to save your work.

Note You can't test your form until you publish your Web site. You'll learn how to publish your Web site in Lesson 2.

.1. On the toolbar, click the **Save** button to save changes to the **Products** page.

Your page should now look like this:



od work! The feedback form is finished and so is the **Products** page. In the next part of ɜ lesson, we'll add the last two pages — an online photo gallery and a list of links to ne sites on the World Wide Web.

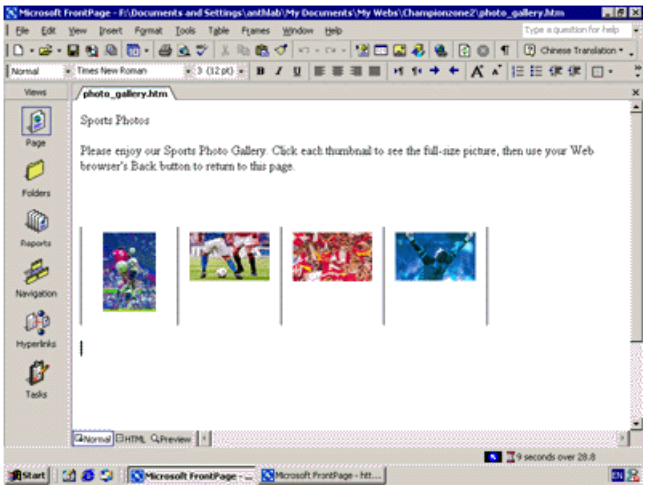
reating a Photo Gallery

e World Wide Web has a graphical interface, so it's no surprise that many popular Web es feature photographs and other types of graphics. Scanners and digital cameras have come much more affordable, and many photo-developing services now offer pictures on -ROMs so you can share them online.

ontPage 2002 provides several layouts in which you can arrange your graphics. For this orial, we will use the Horizontal layout.

o edit the Photo Gallery page

1. On the **Insert** menu, click **Web Component**.
2. In the left pane, click **Photo Gallery**.
3. In the right pane, select the first layout option (the Horizontal Layout), and then click **Finish**.
4. The **Photo Gallery Properties** dialog box automatically opens.
5. Click **Add**, and then click **Pictures from Files.**
6. Click **Open**, and then click **OK**.
7. On the standard toolbar, click the **Save** button to save changes to the **Photo Gallery** page.
8. In the **Save Embedded Files** dialog box, click **OK**.
9. Your page should now look like this:



nking to Other Web Sites

ıen you create your own Web site, you can create hyperlinks pointing to other Web sites ıt relate to the subject matter of your own pages. This lets visitors browse to similar es without having to search for them.

ı create hyperlinks from text

.. On the **Links** page, press the DOWN ARROW key, type **MSN Sports** and then press ENTER.

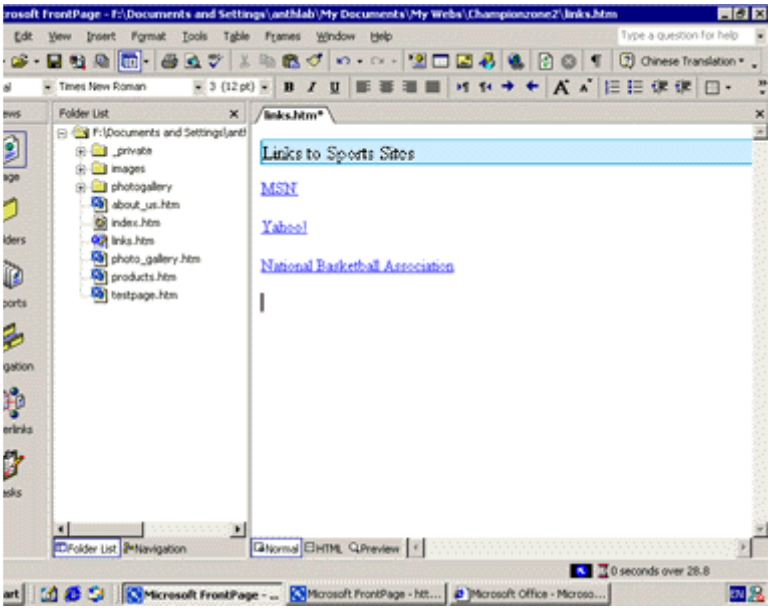
2. Click and drag the mouse over the words you just typed to select them.

3. On the **Insert** menu, click **Hyperlink**.

   FrontPage displays the **Insert Hyperlink** dialog box. Here, you specify the target of the hyperlink you are creating. This can be a page or a file in your Web site, on your local file system, on a Web server, or on another site on the World Wide Web.

5. In the **URL** box, type **www.msnbc.com/msn/msnsports_front.asp**, and then click **OK**.

   Notice that FrontPage automatically adds the HTTP prefix.



pplying a Theme

ontPage includes more than 50 professionally designed themes with matching color nemes that you can apply to any or all pages in your Web site. A theme consists of sign elements for bullets, fonts, pictures, navigation buttons, and other graphics. When plied, a theme gives pages, page banners, navigation bars, and other elements of a eb site an attractive and consistent appearance.

o apply a theme to the Web site

1. Click the **Page** tab for **index.htm**.

   FrontPage brings the home page back into view.

2. On the **Format** menu, click **Theme**.

   FrontPage displays the **Themes** dialog box. Here, you can select from a list of themes that FrontPage installed by default.

3. Click on some of the different theme names in the scrolling list box.

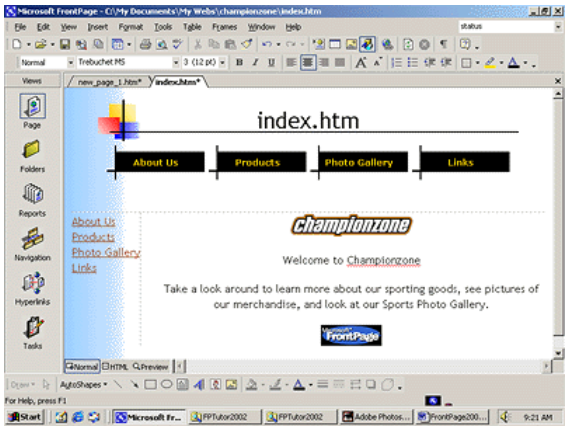
   When you click the name of a theme, the **Sample of Theme** window shows a sample of the graphical elements that are contained in the selected theme. This way, you can first preview a theme before applying it to select or all pages in your Web site.

4. Click **Yes** to apply the theme.

   The theme named Blends is applied to all the pages in your current Web site.

   To save the home page, click **Save** on the **File** menu, or click the **Save** button on the toolbar.

   Your page should now look like this:

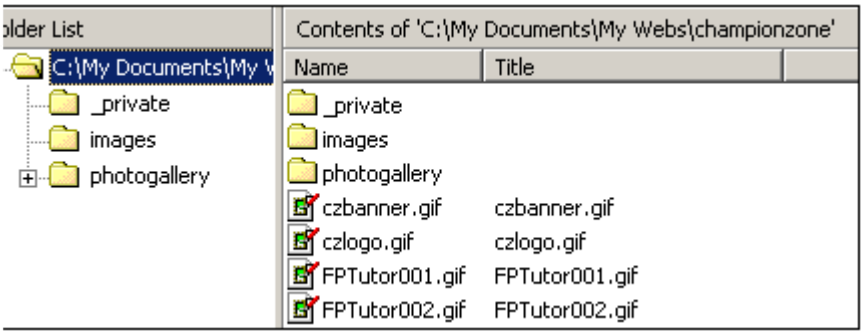


As you can see, applying the theme has dramatically changed the appearance of the home page. The page banner and navigation buttons are no longer plain text; now they're graphics.

rganizing the Files in your Web site

w that your Web site contains several pages and files, you will use **Folders** view to ganize them. Similar to Windows Explorer, **Folders** view lets you manage the files and ders in your Web site. You can safely rearrange the pages and files in your Web site :hout breaking hyperlinks, page banner titles, or navigation button labels.

Folders view, FrontPage displays a hierarchical list of the folders in your Web site on e left side of the screen. Clicking on a folder in the **Folder List** displays its contents on e right side — the **Contents** pane.



the following steps, you will move all the picture files in the Stimulate5 Web site to the ages folder FrontPage created as part of the Web site.

move picture files to the Images folder

1. On the **Views** bar, click the **Folders** icon  .

   FrontPage switches to **Folders** view.

2. In the **Folder List** pane, click the top-level folder labeled ***<drive>*:\My Documents\My Webs\Stimulate5**.

   This will ensure that the contents pane displays all of the folders and files contained in the root Web site.

hen you work with your own Web sites, you can group sound files, movie clips, and her types of files in their own folders. You can create new folders in **Folders** view as eded and delete the ones you no longer need.

create a new folder

1. In the **Folder List**, click the folder in which you want to create a new subfolder.

Folders can be expanded and collapsed in the **Folder List** to bring their subfolders into view. Click the plus (+) and minus (-) signs next to a folder's name to display or hide its subfolders.

2. On the **File** menu, point to **New** and then click **Folder**.

   FrontPage creates a new folder with a temporary name.

3. When the folder's temporary name (**New_Folder**) is selected, type a new name for the folder, then press ENTER.

   The new folder is renamed, and you can now drag and drop files into it.

   For this tutorial, we don't need the extra folder you just created, so you will delete it before we get ready to publish the Web site.

4. In the **Folder List**, right-click the folder you just created.

5. On the shortcut menu, click **Delete**.

6. In the **Confirm Delete** dialog box, click **Yes**.

   FrontPage removes the folder from the Web site.

enerating a Site Summary

ports view is an important tool that shows you the overall health and condition of your eb site before you publish it to the World Wide Web. You can generate custom reports out your Web site in up to 14 categories.

o generate a Site Summary report

On the **Views** bar, click the **Reports** icon  .

FrontPage switches to **Reports** view. The default report is the Site Summary. This report shows you the overall statistics of the pages and files in the Stimulate5 Web site. Here are some important ones to look at before you publish your Web site:

- **All files**: You currently have 23 files in your Web site, totaling approximately 435 KB. This is the amount of space you'll need to have available on the Web server that will host your Web site.
- **Slow pages**: This category shows pages that are slow to download at the targeted download speed.
- **Broken hyperlinks**: If any broken hyperlinks are reported here, double-click the **Broken hyperlinks** row to view details about this category. FrontPage lists unverified hyperlinks, such as the external hyperlinks on your **Links** page, and links that are broken and do not work.

- **Functioning hyperlinks**: You can verify that a hyperlink still points to an active Web site by right-clicking the link in **Reports** view and choosing **Verify** from the shortcut menu. To fix a broken hyperlink, you must open the page it is on and repair the URL the hyperlink points to.

ompleting Web Site Tasks

sks view displays the list of all outstanding tasks associated with the current Web site. sks are items that need your attention before you publish the Web site.

you are working in a Web development environment or on an intranet, **Tasks** view akes it easy to track Web site tasks and assign them to other authors who work on the me Web site.

o complete tasks in Tasks view

1. On the **Views** bar, click the **Tasks** icon  .

   FrontPage displays the **Tasks** list.

2. Double-click the first task on the list, labeled **Fix misspelled words**.

   FrontPage displays the **Task Details** dialog box. Here, you can see details about the task youve selected. You can set the priority of the task, assign it to another author on your network, or complete the task and remove it from the list.

3. In the **Task Details** dialog box, click **Start Task**.

   FrontPage switches to **Page** view and opens the page containing the misspelled words.

4. In the **Spelling** dialog box, click **Add** when FrontPage questions the name **Stimulate5**.

   This adds the word **Stimulate5** to the dictionary.

hough it is not required that you complete every task before publishing your Web site, it a good idea to review this list when you are finished making changes to the Web site. **sks** view helps you manage Web sites by flagging important reminders for you.

ublishing the Stimulate5 Web site

ıen you publish your Web site on the World Wide Web — or your company intranet — ontPage automatically verifies your hyperlinks, the addresses of your pages, and the ths to your files.

ote If you do not want to publish the Stimulate5 Web site to your Web server, read this ocedure for reference only, without actually completing the steps.

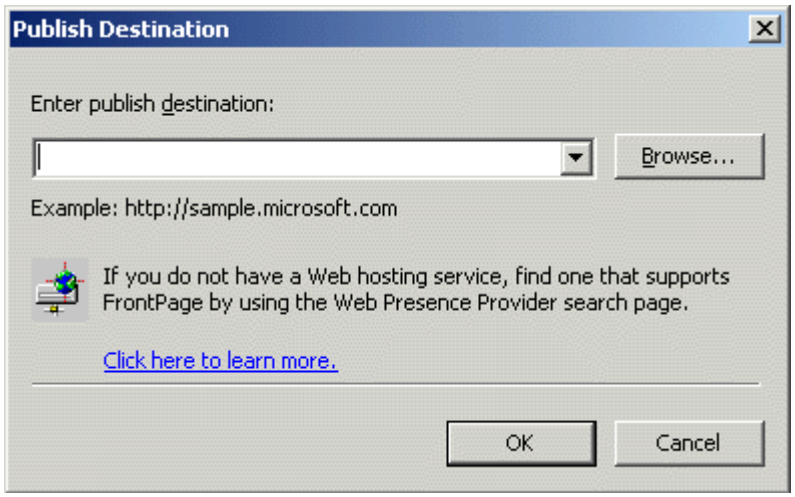
o publish the current Web site

1. Close all open pages in **Page** view.

2. On the **File** menu, click **Publish Web**, or click the **Publish Web** button on the toolbar.

   FrontPage displays the **Publish Web** dialog box. Here, you specify the location on the World Wide Web or your corporate intranet to which you want to publish your Web site. Your Internet service provider can tell you this information.

   You need Internet access through an Internet service provider before you can publish your Web site to the World Wide Web. If you want to sign on with a Web Presence Provider that can host FrontPage-enabled Web sites, click the **Click here to learn more** link in the **Publish Destination** dialog box.



3. In the **Publish Web** dialog box, enter the URL of your target Web server, (such as http://example.microsoft.com/~myweb), and then click **Publish**.

   FrontPage publishes the current Web site from your computer to the World Wide Web or intranet Web server you specified.

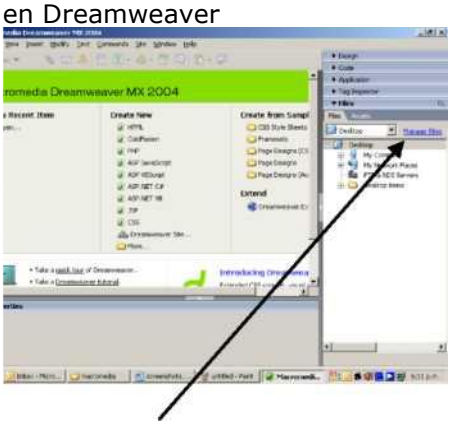
Macromedia Dreamweaver Tutorial

structions:

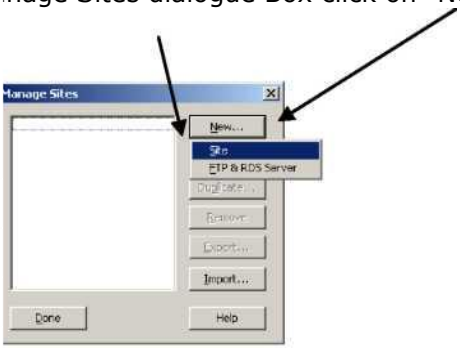
^ Work through this tutorial ^ Ask when you need help ^ Complete all tasks set in the tutorial ^ Refer back to this tutorial when you design your own website ^ Enjoy

SET UP A NEW SITE

en Dreamweaver



ck on Manage Sites on the right hand side of the screen (underline and in blue) In ınage Sites dialogue Box click on^New Then click on Site



ıew site can now be set up Change 'Unnamed Site1' to your name

Click on Next

- No, I do not want to use a server technology Next
- Edit local copies on my machine, then upload to server when ready Next

'How do you connect to your remote server?'
Local/Network
What folder on your server do you want to save your files in?

Click on the folder icon
Create a folder called 'webl' in My
Documents Open Select

Next
® No, do not enable check in and check out
Next
Summary: Your site has the following settings
Done
Done
right hand side of screen, under 'Files', you'll see your name and Remote
View Click on the ▼ next to 'Remote View'

And select 'Local View'
It will now give you the site you have set up

Site - .....

CREATE THE FIRST WEBPAGE

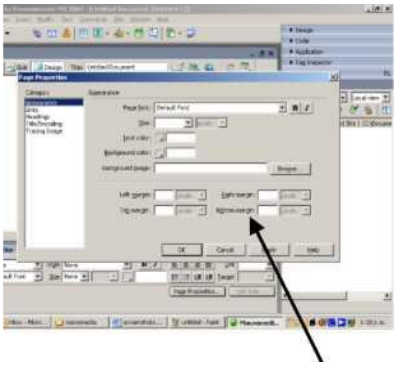
ght-click on that and select **New File**

This new file is going to be your home page
In place of untitled.htm type: Index.html
Make sure to type the filename and .html, otherwise Dreamweaver will not recognise it as a webpage
If that happens you'll have to rename the file at a later stage To rename the file:
Press F2
or Right-click on the file
Edit
Rename

To Edit or work on this page, double-click on Index.html - it will open the page and you can now design you website

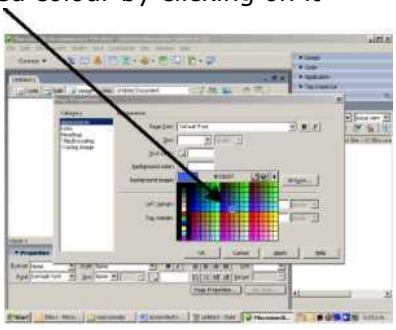
PAGE PROPERTIES

select background colour/picture, font and colour, link colours, etc: Ctrl J
or Click on Page Properties at the bottom of the screen or click on Modify in the top toolbar
and select Page Properties

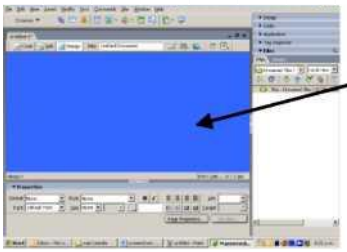


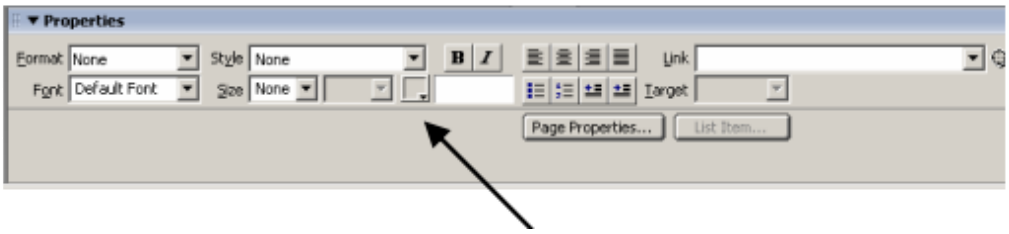
s will give you the Page perties dialogue box

select a colour for the background, click on the ▼ in the box next to 'background colour' and select your ferred colour by clicking on it



Be careful with your colour choices as text can be hard to read on some of the colours Click on Ok
This will take you back to this Index page, now with your chosen background colour





the bottom of the screen are the 'Properties' - this is where you change font, the size, colour, select bold italics It is not possible to use WordArt in Dreamweaver, but you can type your heading in 'Word' and nply copy and paste it to your webpage
trl C to copy and Ctrl V to paste)

pe your name on the index page, using WordArt or normal text. Make sure it stands out. To centre it click = at the bottom of the page.
ter to go down. Insert a picture underneath your name. Do NOT copy and paste pictures. As you did with ordArt. insert it the proper way.

INSERT A PICTURE

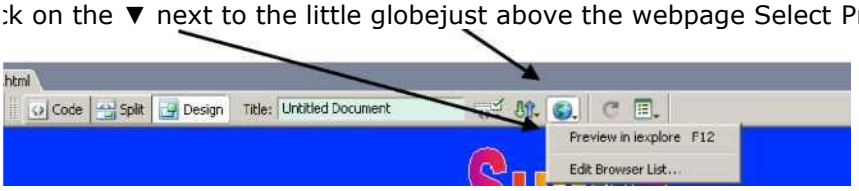
insert a picture:
Click on Insert
Image
Browse for the picture in your area. It is always a good idea to have a 'My Pictures' folder where you save all your pictures Select picture, click on OK
Dreamweaver will now tell you the file is outside the root folder of your site, and ask you 'Would you like to copy the file there now?'
Click on Yes
Click on Save, to save it in your website folder

is possible to resize the picture in Dreamweaver, by simply dragging it smaller, or changing the size at the ttom of the screen where it shows the picture width (W) and height (H) - but it is not a good idea as it en distorts the picture. Resize it in Paint/Fireworks/Photoshop or any other programme you prefer to use

is possible to change the appearance of a picture with, for example, a border:
Select the picture
Next to 'Border' at the bottom f the screen, type 5 and enter - the higher the number the thicker the border

PREVIEW WEBSITE

:k on the ▼ next to the little globejust above the webpage Select Preview in iexplorer



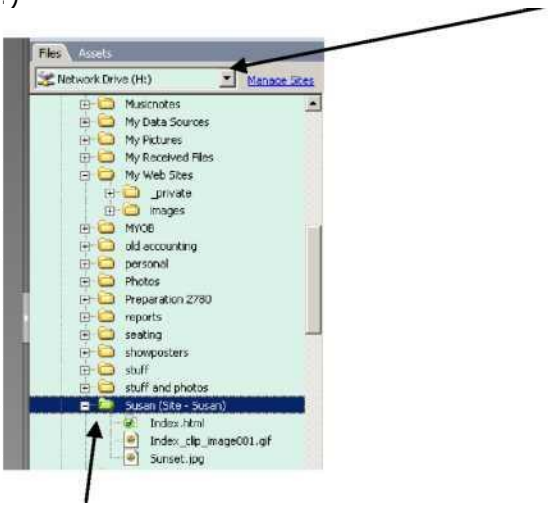
s is going to open the page as an internet site

SAVE

ake sure to save your work often, using Ctrl S or File, Save

You now have the first page of your webpage
It is called Index.html
On it is a background colour of your choice
Using WordArt your name is centred on the page
There is a picture on the webpage
There is a border around the picture
You have previewed the website
It is sa

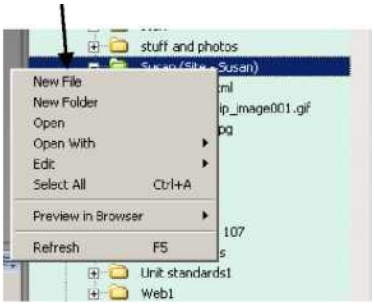
en Dreamweaver
the right-hand side of the screen, change it toyour area
)



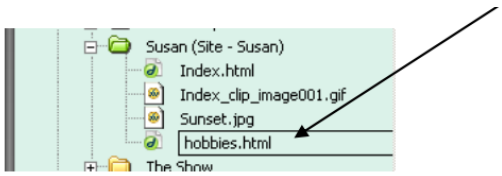
cate the website you created

INSERT A PAGE

ht-click on the website folder Select New File



pe the name of the second page, for example Hobbies.html



usan (Site - Susan)

.....Index, html

..... #) Index_clip_image001

/sunset.jpg

hobbies.html i P> --lP=| The Shnw

Make sure to add the extension .html or .htm, otherwise Dreamweaver won't recognise it as webpage (If you made a mistake, rename the file - instructions at the top of page 3 of this tutorial)

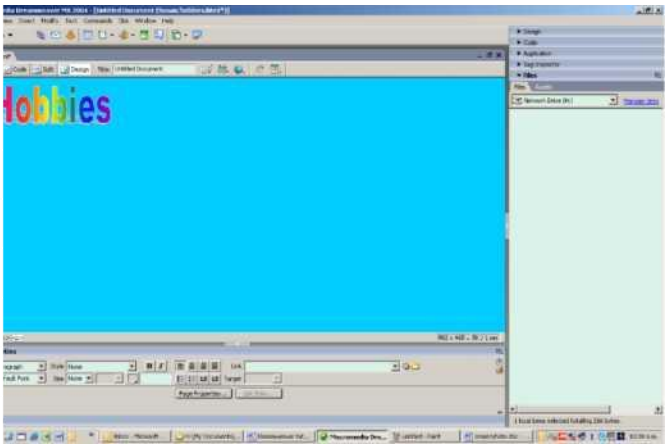
ter

uble-click to open the page

lect an appropriate background colour (Page

ype Hobbies/Sport on this page, using WordArt (Page 4).
Make sure it is left-aligned, in other words on the left-hand side of the screen Select the left-align icon in Properties at the bottom of the screen

ii

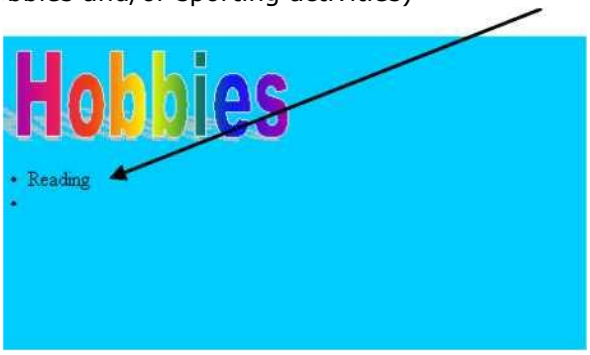


ess Enter to go down

ou are going to list your hobbies/sport as a bulleted list, on the left-hand side of the ebpage To select a bulleted list, click on the 'list' icon in Properties

e Pn

ype your list, enter between each one - a bullet point will appear (The list must consist of at least si obbies and/or sporting activities)



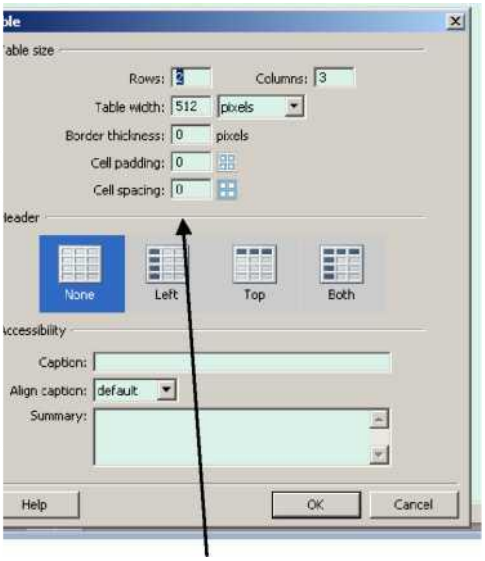
hen finish with your list, enter twice

nd six suitable pictures/images to illustrate your hobbies/sport typed in the bulleted list - save these in you ctures folder

You now have the second page of your webpage
It is called Hobbies.html
On it is a background colour of your choice
Using WordArt 'Hobbies/sport' is left-aligned on the page
There is a Bulleted list underneath the heading, listing at least six activities
It is saved
There are six suitable pictures saved in your 'Pictures' folder
There are NO pictures on the webpage!

TABLE

ck on the table icon in the Common toolbar, just above the webpage - it is next to the little anchor



the Table dialogue box, select a table of:

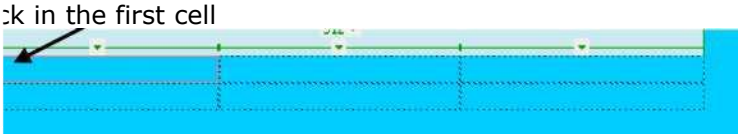
2 rows and 3 columns 512 pixels wide 0 Border thickness 0 Cell padding
0 Cell spacing

ck on OK

able will appear under your list

not change the size of the cells in the table, as it will adjust automatically to allow the image to fit

ck in the first cell



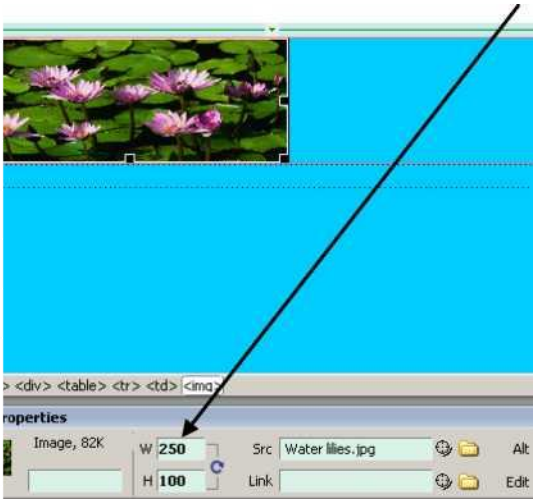
ert an image in this cell (page 4)

size the picture to:

W (width) ± 250 H (height) ± 100

change the size of the picture to the above size:

Click on the picture
Resize it in the Properties box, by typing in 250 and 100, enter



is more acceptable to resize the pictures by using another programme, for example Paint, Photoshop eworks - but do it in the Properties box for the purposes of this tutorial

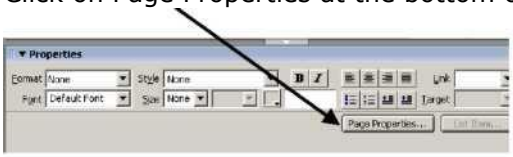
w insert pictures in all the cells - six in total

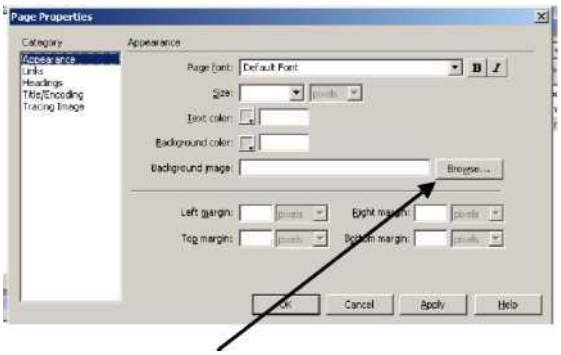
ve the website (Ctrl S)

- You now have completed the second page of your webpage
- There is a table with six pictures underneath the list
- It is saved

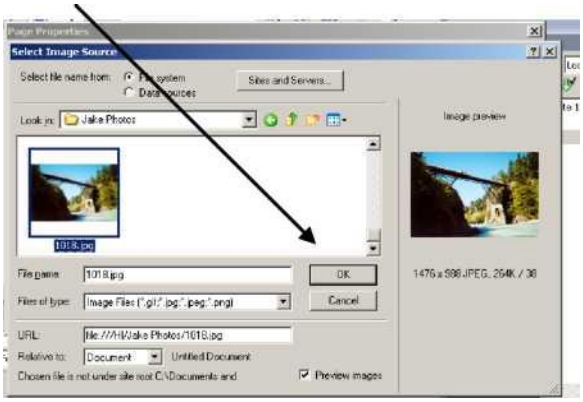
eate another page on your existing website. Name this page nily.html Select a picture as background, instead of using a colour:

Click on Page Properties at the bottom of the screen

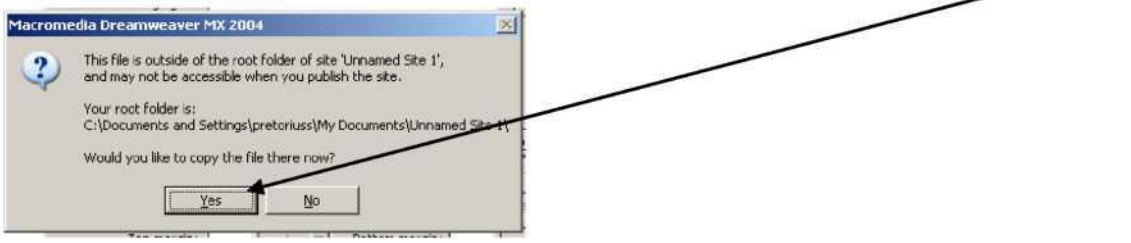




Click on the Browse button, next to Background Image
Look for a suitable image in your Pictures folder Click OK



Dreamweaver will go through the normal procedure to save it in the website folder. Click on Yes when i asks you 'Would you like to copy the file there now?'



Then click on Save
The name of the picture will now appear in the area next to Background Image

• j |

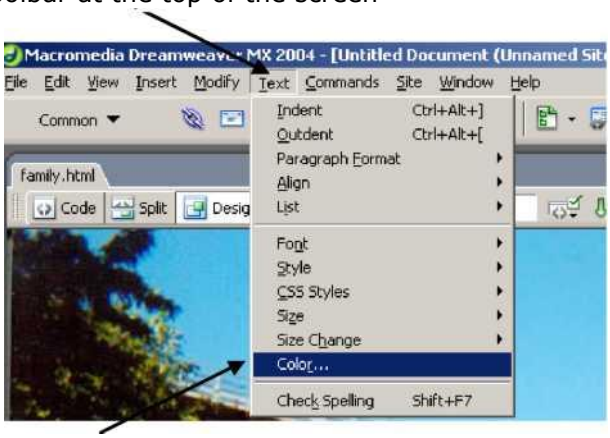
Background image: | 1018.jpg

Browse..

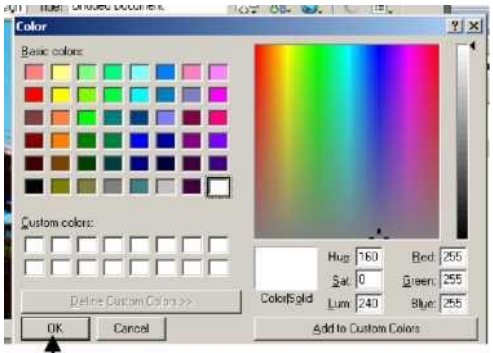
(Set the size of the photo/image to 1024 x 768 pixels, using Fireworks - then it won't be tiled on your webpage)

by changing the

When using an image as background, you will have to make sure the text is still readable colour of the font, which can be done in Page Properties or Click on Text in the toolbar at the top of the screen



Click on Color
Select a suitable colour



Click OK

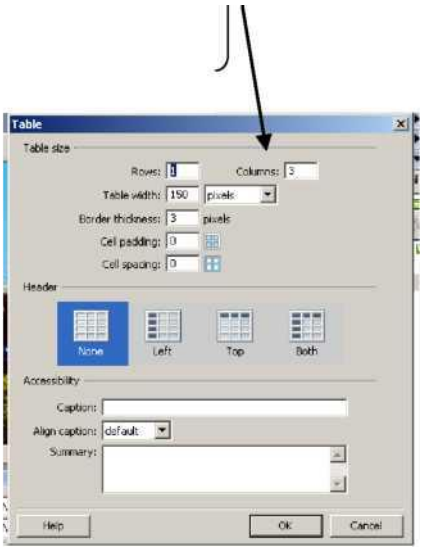
Write about your family, choosing a suitable font and font size Save

- This is the third page, called Family.html
- You have used a background image
- There is some information about your family
- It is saved

the top of each webpage of your website, insert a table with:

1 row 3 columns 150 pixels

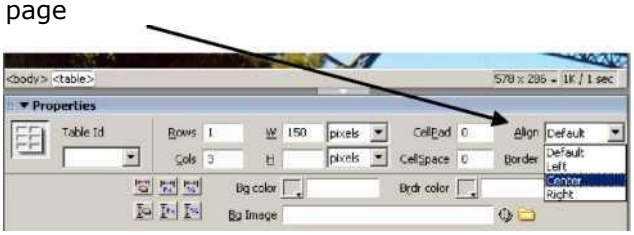
Border thickness 0 Cell padding 0 Cell spacing

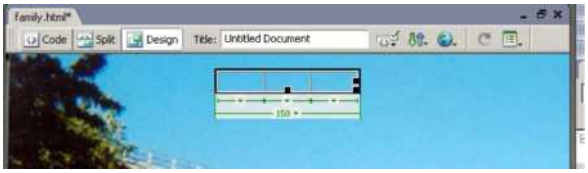


the Properties window, underneath the page,

click on Align

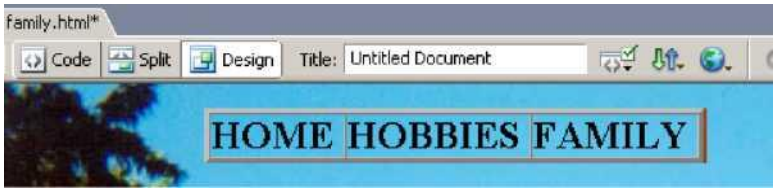
and choose Center - to place the table on the centre of the page





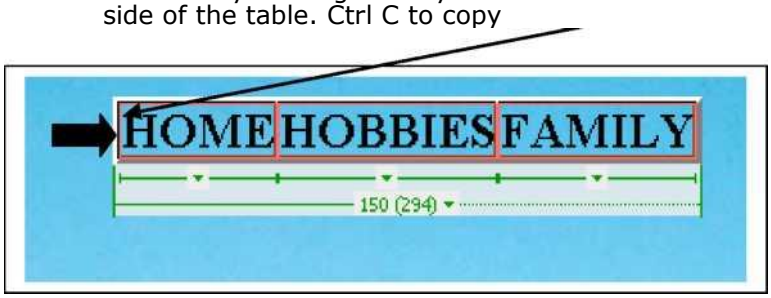
be in the three cells:

HOME HOBBIES FAMILY



Font: 24 and Bold

Select the table by clicking when you see a blackarrow on the left-hand side of the table. Ctrl C to copy



Open Index.html, move your title down and Ctrl V to paste the table above your name

Do the same for the Family page

To link HOME to the home page, which is called Index.html: Highlight the word HOME in the table

In the blank space next to Link, in Properties, type the name of the home page. Ensure the spelling is exactly the same

HOME should now be blue and underlined

HOME HOBBIES FAMILY

Do exactly the same to link HOBBIES and FAMILY - typing in the correct page titles. Repeat this on all three pages

Save all the pages (Ctrl S) and preview to test whether the links are working

You now have:

- A three page, linked website
- Basic knowledge to create a website!

WHAT IS A WEB SERVER?

Never trust *a* computer *you* can't threw out *a window.*

—Steve Wozniak

CHAPTER OBJECTIVES

In this chapter you will learn about:

In this chapter we provide some background information on how documents are published on the World Wide Web. We explain how computers on the Internet talk to each other and, more important, how Web pages get from a Web server to a browser. When setting up a Web server, it is important to know a little about the underlying technology: the communications protocols, network terminology, and document formats.

LAB 1.1

CLIENT/SERVER BASICS

LAB OBJECTIVES

After completing this lab, you will be able to:

- Understand Client/Server Concepts
- Describe Basic Functionality of Web Stervers and Browsers

Before we even start to talk about Web servers, let's look at clients and servers in general. In network terminology, a client is a piece of hardware or software used to communicate with a data provider (server). Normally, only one user uses a specific client at a time. A client connects to a server to send and receive information. Think of a client as a program that gets information from somewhere else. A server is usually a large computer capable of providing data to many clients at the same time. The word server can mean the physical computer or piece of hardware, or it can refer to the actual server software or daemon running on that machine. A daemon is a program that offers a service to other programs, usually over a network. It accepts requests from clients, processes the requests, and returns the results to the requesting client. Although the client and server can be on the same machine, they are usually on separate machines connected by some kind of network.

The World Wide Web (WWW) uses this client/server model to allow millions of users to access Web sites all over the world. A Web server is a specific type of server that knows how to communicate with clients using the HyperText Transfer Protocol (HTTP). A protocol is just a standard set of rules that allow a client and server to communicate. For a client and server to communicate, they must speak the same protocol. HTTP allows clients to request documents and servers to respond with those documents. We will look at HTTP in more detail in Lab 1.3, but for now, think

of it as a small language. On the Web, the clients are Web browsers—applications especially well suited for displaying HTML content. Web servers wait for clients to connect and when a connection is established, they receive a request from the client and then respond—usually returning a document or image. The Web server process is usually referred to as the HTTPD, or HTTP daemon.

NETWORK CONNECTIONSAND PORTS

To connect to a server, the client must be able to communicate with it over the network. Computers connected to the Internet typically communicate using TCP/IP (Transmission Control Protocol and the Internet Protocol). TCP/IP allows different types of computers to communicate at a low level; it is up to applications, however, to determine how client and server software talk to each other. Applications such as e-mail, ftp, and Web browsers use their own protocols (SMTP, HTTP, etc.) to communicate on the application level while using TCP/IP at the network level.

TCP/IP uses IP addresses to communicate between computers. Each computer on the Internet has its own unique IP address. When a computer wants to send a message to another machine on the Internet, it specifies the address of the other machine and the message finds its way through the network. This is similar to how a letter finds its way through the postal system. The destination computer may have many different services running on it, so to specify which service we want to communicate with, we must use a port number. Each service has a unique number assigned to it known as a port number. Most of the services have standard port numbers.

SERVERSAND BROWSERS

The main goal of any Web server is to provide documents to clients. The first Web servers were very simple and did little more than this. Today's Web servers are full of features that allow them to do more than just respond to simple requests for static documents, and many provide easy-to-use graphical user interfaces for administration and customization. Today's servers support options that allow the creation of dynamic documents—documents that are generated on the fly, not stored on disk.

The purpose of a Web browser is to retrieve and display information from a Web server by using HTTP. A browser allows any user to access a server easily. Without even knowing what a Web server is, a user can easily obtain information from one just by entering a URL. Browsers have evolved

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also, adding features that far extend the capabilities of browsers that once displayed only basic HTML.

BROWSER PLUG-INS

A plug-in extends the capabilities of a browser by allowing it to display more than just HTML documents. Adobe's Acrobat plug-in allows browsers to display PDF (Portable Document Format) files, and Macromedia Shockwave and Flash plug-ins allow authors to embed multimedia applications in Web pages. Plug-ins typically rely on the browser to retrieve the content (using HTTP) and then display it themselves. Plug-ins such as Real Networks' RealPlayer, however, are able to use their own protocols instead of HTTP to retrieve content. RealPlayer enables browsers to play streaming audio and video, which has different requirements than text documents, so a protocol other than HTTP is used by the plug-in to enhance performance. Helper applications are similar to plug-ins; they allow you to view content that your browser cannot. Unlike plug-ins, helper applications run outside the browser. They are stand-alone applications and they cannot be used to embed content in Web pages.

LAB 1.1 EXERCISES

-Q-

1.1.1 Understand Client/SErver Concepts

a) What are the benefits of using a client/server model?

b) Give an example of another type of client/server application.

c) How does a hostname get translated into an address? Find out the IP address of a host (try www.phptr.com).

1.1.2 OF WEB SERVERS AND BROWSERS

LAB 1.1

a) What is the primary function of an HTTP server?

b) Who developed the first Web server? What other early Web servers were developed?

c) What is the primary function of a Web browser?

d) What was the first Web browser? Why did it succeed where similar services (such as ftp, gopher, and WAIS) failed?

LAB 1.1 EXERCISE ANSWERS

1.1.1 Understand *CLIENT/SERVER* Concepts

a) What are the benefits of using a client/server model?

Answer: Making data available on *a* server can make *it* possible for many clients; to *access* that data. Clients can be dispersed geographically. Clients are sure to receive the most up-to-date information. *The* framework *of* the server can be changed (database back ends ^n be switched) without affecting the clients Sferver maintenance is easier *if all* clients are connecting to one place.

The client/server model is ideal for distributed applications. A server allows clients access to current data and allows clients to be dispersed anywhere there is network connectivity. A client generally asks a server for a

resource but does not care how the server gets that resource. Therefore, the server's underlying technology can be changed without changing the client's functionality. For instance, you could change your server to access an Oracle database instead of a Microsoft database. Another benefit to having all services provided through a central server is that maintaining those services becomes a little easier—or at least more manageable.

One of the benefits of this model is that all account information is located in a central place. Consider the example of a bank with automated teller machines (ATMs). If bank account information were stored at each ATM site, it would be much harder to keep accounts up to date. By centralizing account information, many clients are able to get up-to-date account information easily. Administration is also easier when there is just one central server to worry about. It is easier to monitor and maintain one server or even a number of servers when they are all in one centralized location.

b) Give an example of another type of client/server application.

Answer: *A* classic example *of* client/server is *a* bank *ATM* network. Think *of* the *ATMs as* dients—one user *at a* time can *use* each *ATM* to make withdrawals from their account. Each *ATM* connects to *a* central computer (a server) to verify your *PN* number and gain access to your account information.

-Q-

c) How does a hostname get translated into an address? Find out the IP address of a host (try www.phptr.com).

Answer: *When a* client wants to talk to *a server,* it must know the *IP* address. *A* user will usually enter *a* hostname rather than *IP* address, though, and the computer will then resolve the hostname into *an* \P address that *it* can *use:. When* the client makes *an* initial request to talk *with a server,* it specifies which *IP* address *it wants* to talk *with* (the unique *IP* address *of* the server) and specifies *a* port number. *A* port number is used to specify which service the client *wishes* to *use* (HTTP, telnet, ftp, *etc.).* Think *of* this *like a* telephone *call: a* telephone number is *like an* \P address and *a* port is *an extension.* Fbrts allow networked computers to provide many services but *use* only *a single* address.

Applications use standard port numbers to communicate. Some standard services and ports are:

FTP	20, 21
Telnet	23 25
SMTP (e-mail)	80
HTTP	

When you type a URL into a Web browser to request a Web page via HTTP, it will try to connect to the server at port 80 unless you specify a different port number. There may be times when you want to run a service on a nonstandard port. For instance, you might have a production Web server running on port 80 but set up another HTTPD on port 8080 for testing purposes. On UNIX servers, port numbers below 1024 are available only for use by programs running as the root user (the system administrator). Ports above 1023 are available to programs running as any normal user provided that the port is not already in use. Once a daemon starts running on a port, any client can connect to it.

1.1.2 OF WEB SERVERS AND BROWSERS

a) What is the primary function of an HTTP server?

Answer: *The* primary function *of an* HTTP server is to service client requests for documents. It *waits for* HTTP requests and then returns data for each one. *An* HTTP daemon provides *an* HTTP service. It allows *a server* to support client requests *for* documents. It generates errors *when* invalid requests are received or when *a* document cannot be found. *The Web* server process also generates log files *of* requests, errors, and other information.

-C

b) Who developed the first Web server? What other early Web servers were developed?

Answer: *The* European Laboratory for F&rtide Physics (CERN) produced one *of* the first *Web* servers *The World Wide Web* Consortium *(W3C)* took over development *of* the CERN HTTFD (also known *as* the *W3C* HTTPD), but no longer supports *it.* The *W3C* currently supports *a* aa-based server known *as Jgpaw/.* Both the CERN HTTFD and *Jigsaw/* are reference implementations, meaning that they illustrate features *of* HTTP but are not meant *for* large-scale production *use:.* Source code is available *for* both servers and they are excellent points *of* reference *for* developers wishing to write their *own* HTTP daemons

The National Center for Supercomputing Applications (NCSA) also created an HTTP server early in the evolution of the Internet. The CERN HTTPD was difficult to configure and not available for many platforms, so NCSA wrote their own version. The NCSA server quickly became the most popular Web server on the WWW from 1993 to 1995. Like the CERN server, however, development on the NCSA HTTPD has also ceased. Apache is a popular server based on the NCSA implementation. Originally written using existing code from the NCSA HTTPD, it has since been rewritten completely. Currently, Apache is the most widely used Web server software, with close to 50 percent market share.

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Apache, CERN, and NCSA all released the source code for their Web servers. This made fixing bugs easier because anyone could see how the server worked. These servers make excellent examples for Web server developers, and they allow easy modification or customization of any aspect of the server.

c) What is the primary function of a Web browser?

Answer: *The* primary function *of a Web browser* is to display *HTML* documents *Although* it can be used to *view* local documents on *a* hard drive, *it* is normally used *as a* client to retrieve documents from *an* HTTP server. Although browser software *has expanded over the past few years to include such services as e-mail and news, its pri*mary function is to format *HTML* documents for display.

d) What was the first Web browser? Why did it succeed where similar services (such as ftp, gopher, and WAIS^ failed?

Answer: *The* first real *HTML* browser, NCSA Mosaic* came into being *in* early 1993. Although the hypertext documents had been around for some time, *Mosaic* had *several* essential features that made *it* popular right from the start. First, *it was* free, *as* are most browsers even today. Second, *it was* available for *all* major platforms: UNIX, Macintosh, and Microsoft *Windows.* Third, *it was* easy to create content—no special software *was* required to write *HTML,* only *a* text editor. Before Mosaic* only text- based clients such *as* gopher, *WAIS,* telnet, and *FTP were widely* available *for* retrieving information on the Internet. *An* easy-to-use GUI interface and easy-to-create content launched the *Web* in the form *of* NCSA *Mosaic* clients and HTTFD servers

-Q-

LAB 1.1 SELF-REVIEW QUESTIONS

To test your procress, you should be able to answer the following questions.

1) A Web server is which of the following?
   a) ____ Software
   b) ____ Hardware
   c) ____ Both a and b

2) A Web server can run on just about any type of machine, not just a huge, expensive server.
   a) ____ True
   b) ____ False

3) A browser utilizes which of the following technologies? (Choose all that apply.)
   a) ____ A network
   b) ____ A Web server
   c) ____ A phone line
   d) ____ HTTP

LAB 1.1

4) Which of the following may be a reason for running a Web server on a port other than port 80?

a) _ You don't have access to port 80 (since you aren't root).
b) _ You are running multiple Web servers on the same machine.
c) _ You don't have enough memory.
a) _ Both a and b
e) All of the above

5) A server can also be a client.

a) _____True
b) _____False

Answers appear *in* Appendix A

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LAB 1.2

ELECTRONIC PUBLISHING

LAB OBJECTIVES

After completing this lab, you will be able to:

- Understand the Basics of Creating Hypertext Documents
- Understand the Difference between ASCII and Binary Files
- Give Examples of MIMETypes

To understand more about Web servers and HTTP transactions, one must also be aware of how authors create and publish electronic documents. Although the focus of this book is not content creation, it is a good idea to familiarize yourself with some of the more technical aspects of electronic documents.

One of the strengths of the Web is the support of hypertext documents. A hypertext document contains hyperlinks (commonly referred to as links) that allow the reader to jump easily from one document to another, or to move around the current document. Links allow the user to follow a specific thread or view quickly documents on related topics. The Web is not limited to text documents, though; HTML documents can contain images, sounds, animations, and even video. Web publishing is about creating hypermedia, not just hypertext.

In the Web-publishing realm, we deal with two types of files: ASCII text files and binary files. ASCII files can be HTML or plain text or some other simple format. Most other files tend to be of the binary kind. A simple

text editor (notepad, emacs, vi) can create ASCII text files. You can create HTML documents by writing the HTML tags yourself with a text editor. Most Web authors will use a good text editor to do some of their authoring but supplement its use with a specialized HTML authoring package. Netscape Composer, Microsoft FrontPage, Macromedia Dreamweaver, and Adobe PageMill are some widely used HTML authoring packages.

ASCII TEXT FILES

Strictly speaking, an HTML document is just an ASCII text file. ASCII is the most common way of storing plain text on a computer. It uses numerical values (from 0 to 127) to represent letters, numbers, and other characters. Each byte of the file represents a specific character. For example, the letter “A” is represented by the number 65, the letter “B” by 66, and so on. For a list of all the ASCII values, see Appendix B.

ASCII text files are not compressed and can usually be viewed or edited by any simple text editor. Most operating systems can view and edit plain text files easily. Most use ASCII for representing text. Part of the appeal of HTML is that it is very easy to view the source code. This allows anyone to see how a certain effect was created.

BINARY FILES

A binary file is one that generally does not contain plain text in ASCII format. Images, sounds, and even compressed ASCII files are all binary files. To view them, an application must interpret the file. Word processors also create binary files—although they create text documents; the application saves the document in a binary format. Your word processor may be able to read and write ASCII files, too, but the files do not contain formatting information (fonts, margin settings, and the like). Any image or sound editing application also deals with binary files.

IMAGES

There are hundreds of file formats available for storing graphics and images. Web browsers typically support only a handful of image formats, however. The most common types of images are GIF and JPEG formats. Each of these formats has strengths and weaknesses. Both formats use compression to reduce the size of the file. GIF uses a lossless compression, meaning that it does not lose any of the image quality. JPEG images, on the other hand, use a lossy compression in which a relatively small file size is achieved with sacrifice to the image quality. GIF supports up to 256 colors, while JPEG images support millions of colors.

Table 1.1 • Image File Formats

	GIF	JPEG	PNG
LAB 1.2	256 colors (8-bit)	16 million colors (24-bit)	16 million colors (24-bit)
	Lossless compression	Lossy compression	Lossless compression
	Transparency	No transparency	Transparency and opacity
	Can be animated	No animation	No animation

Another format that is just recently gaining popularity in Web publishing is the PNG (portable network graphic) format. PNG images offer millions of colors, lossless compression, and other features that make them a good alternative to GIF images in many cases. Table 1.1 summarizes the differences in these image formats.

AUDIO

Most browsers have the ability to play sound files. This ability allows Web authors to include sc
cl n their HTML documents. Audio vT" s
a mbedded in a page to play automatically, or they can be used as

links to be played when a user clicks on a link to the sound file. There are three sound formats commonly used on the Web, one corresponding to each of the three major platforms. Most current browsers with audio capabilities can support all three formats, so authors are free to choose which format to use and not worry too much about compatibility issues.

Table 1.2 summarizes the differences in the three most common audio formats: WAV, AIFF, and AU.

MIMETYPES

The multipurpose internet mail extensions (MIME) are a set of rules that allow multimedia documents to be exchanged among many different computer systems. MIME was originally designed for sending attachments in e-mail, but it is also incorporated into HTTP. MIME uses media types and subtypes to describe the format of a file.

A Web server must determine the MIME type of a file before it sends it to the browser. To do this, it looks at the filename extension (suffix) and then tries to find that suffix in the MIME types database. Usually, this database is just a text file named MIME.types that contains a list of media types and their associated file extensions. It then sends the MIME type along with the document to the browser. The browser can use the MIME type to determine how it should display the document. Both the

Table 1.2 • Audio File Formats

WAV Files	AIFF Files	AU Files
Originated on Windows-based machine (introduced with Windows 3.0)	Originated on Macintosh (audio interchange file format)	Originated on Sun Microsystems work-stations (UNIX)
8-kHz, 8-bit mono to 44-kHz, 16-bit stereo	8-kHz, 8-bit mono to 48-kHz, 16-bit stereo	8-kHz, 8-bit mono to 48-kHz, 16-bit stereo
Formally known as RIFF WAVE audio	Used for Red Book CD audio	The "original" Internet sound file format
Can be compressed or Uncompressed	Not compressed; very pure format	Can be compressed or uncompressed

server and client must have a simple MIME types database. On the server it is usually a text file. On the client, each user may have its own MIME settings, either in a file or as part of the operating system configuration. Windows maintains file type associations in the registry, while UNIX typically uses text files. Maintaining a database for each user allows users to customize their tools to use different applications, depending on what type of file they're trying to view.

There are currently seven different media types in use: application, audio, image, message, multipart, text, and video. These media types provide a high-level description of the type of data sent. MIME also uses subtypes to further describe the actual data. For example, HTML is a text format, so it falls into the text media type. Its subtype is just html, so the MIME type for an HTML document would be text/html. A plain text document is described by text/plain. Images fall into the image category; image/gif describes a GIF image and image/jpeg describes a JPEG image file.

LAB 1.2 EXERCISES

1.2.1 Understand the Basics of Creating Hypertext Documents

Use a text editor (not a word processor or publishing program) to create a simple HTML document with a hyperlink to the FTentice Hall Web site (http://www.phptr.com/).

a) What happens when you view your page in a browser?

LAB 1.2

b) Click on the hyperlink; it should display the Prentice Hall home page. View the source of the Prentice Hall h page. What do you see?

1.2.2 Understand *THE* Difference between ASCII and Binary *FILES*

a) Find an image on the Prentice Hall home page. Can you determine what type of image it is?

b) View the image by itself, then view the source of the image in the browser as you did with an HTML file. What do you see?

1.2.3 Give Examples of MIME *TYPES*

a) View any Web page from a browser. How can you determine what the MiME type of the document is?

b) How are MIME types used when requesting or receiving documents on the Web?

LAB 1.2 EXERCISE ANSWERS

1.2.1 Understand the Basics of Creating Hypertext Documents

use a text editor (not a word processor or publishing program) to create a simple HTML document with a hyperlink to the Prentice Hall Web site (http://www.phptr.com/).

a) What happens when you view your page in a browser?

Answer: If you created *a* valid *HTML* document and saved it *with a* .html extension, *it* should look *like a* simple *Web* page—as you'd expect. If you saved *it* with *a* .txt extension (which is the default *for* many text editors), you might be looking *at* the *source HTML in your browser rather than a formatted version. And, of course, if the HTML you* entered is not valid, you might see some rather strange results *in the browser.*

Here is a simple example HTML document:

```
<HTML>
<TITLE>My web Page</TITLE>

This is a simple web page.<BR>

<A HREF=http://www.phptr.com>Click Here for Prentice Hall</A>
</HTML>
```

To create an HTML document, simply enter this text into a text editor and save it as myfile.html. In Windows, use notepad by clicking on the "Run" option in the Start menu, and entering "notepad" as the program to open. Enter the text to create your document and then save it as myfile.html in the directory of your choice. It is very important to save it with a .html extension; if you don't, the browser will not know that it is an HTML document.

b) Click on the hyperlink; it should display the Prentice Hall home page. View the source of the Prentice Hall home page. What do you see?

Answer: Viewing the source *of any* HTML document you find on the *Web* should *show* you the source code used to generate the document. For *very* complex paces, *a* lot *of* source is displayed, and *it* is often hard to read. For simpler pages, however, you can see exactly how the page is put together. *This* text that you are viewing is plain ASCI\ text *with* no special formatting.

AB
..2

Clicking the right mouse button in Netscape or Internet Explorer brings up a menu that allows you to view the source of the current document. The "View Info" option in Netscape gives you valuable information about the page also. If you right-click on an image or other object in a page, the menu displays different options.

1.2.2 Understand *THE* Difference between ASCII and Binary *FILES*

a) Find an image on the Prentice Hall home page. Can you determine what type of image it is?

Answer: \f you can determine the name *of* the image file, you should be able to determine the type *by* the filename extension. To find the name *of* the image, you might try *looking at the source code. The filenames for all images in the document should be in* the `<img>` tags.

Another way to get more information about an image is to right-click on the image in the browser to bring up the options menu. For Netscape, click on "View Image." This displays the image by itself in the browser window. Now right-click on the image and select "View Info." This should display some information about the image, including its MIME type. In Internet Explorer, you can right-click on an image in an HTML document and select properties from the pop-up menu. This will also display the type, size, and other information about the image.

b) View the image by itself, then view the source of the image in the browser as you did with an HTML file. What do you see?

Answer: I*n* Netscape, do *a "View* \mage" *as* in Exercise *1.2.1. Now* right-click on the image and select *"View* Source" or select "Page Source" from the *view* menu. You should see *a* page full *of* garbage characters. *This* is binary data. Unlike ASCH text files, images are not meant to be viewed *in* text mode.

1.2.3 Give Examples of MIM E *TYPES*

a) View any Web page from a browser. How can you determine what the MiME type of the document is?

Answer: *In* Netscape, you can *get* information about the page that you're currently viewing *by* selecting "Page Info" from the *view* menu. *In* Internet Explorer, you can right-click *in* the document and select "Ropertie£' from the option menu. Along *with* the *MIME* type, you can *view* other information about the document that is provided from the *HTTP* headers. Netscape shows the *last* modified time, when the document expires, and whether or not the document is cached.

For HTML documents you should see that the MIME type is text/html. The media type is "text"—HTML is fundamentally text. The subtype is html, which further describes the type of text.

b) How are MIME types used when requesting or receiving documents on the Web?

Answer: *A* browser is able to specify *what* types *of* data *it* is capable *of* displaying and *it* specifies this by using *MIME* types *When a server* returns *a* document, *it* must tell the browser *what* type *of* data is being returned, and *it* also specifies this *by* using *a* standard *MIME* type.

LAB 1.2 SELF-REVIEW QUESTIONS

To test your progress, you should be able to answer the following questions.

1) An HTML file contains:
   a) ____ Text
   b) ____ Images
   c) ____ Both text and images
   d) ____ Binary data

2) Which of the following types of tools cannot be used to create hypertext documents?
   a) ____ A simple text editor
   b) ____ A word processing program
   c) ____ An automatic HTML generator
   d) ____ A graphics utility
   e) ____ All of these are capable of creating hypertext documents.

3) Mime types are important for which of the following reasons?
   a) _____ They allow the browser and server to communicate.
   b) ____ They tell applications what kinds of documents are being sent.
   c) ____ They speed the transmission of binary files.
   d) ____ FTP uses them to determine how to transfer files.

LAB 1.2

4) What is the MIME type of an HTML document?
   a) ____ html/text
   b) ____ HTML
   c) ____ text/html
   d) ____ text/plain

5) Why is a simple text editor useful to a webmaster?
   a) ____ It generates plain text files with no special characters.
   b) _____ Text editors are generally available on all platforms.
   c) ____ In many cases it's quicker than using a large application.
   d) ____ All of the above

Answers appear in Appendix A.

-Q-

LAB 1.3

LAB 1.3

HTTP OVERVIEW

LAB OBJECTIVES

After completing this lab, you will be able to:

- Identify the Parts of an HTTPTransaction
- Identify HTTP Request Methods
- Identify HTTP Headers and Sferver Responses

HTTP transactions

As you learned in Lab 1.1, HTTP is a protocol that allows Web browsers to talk to servers and exchange information. HTTP provides a standard way of communicating between browsers and Web servers—so any browser can talk to any server, provided that they both conform to the HTTP specification. HTTP expects the client to initiate a request and the server to respond. Each request and response has three parts: the request or status line, the header fields, and the entity body.

- *FOR* EXAMFLE

When you type a URL into your browser, it initiates an HTTP request to a Web server. That request has the following sections:

- Request line. This line contains a request method, the document location, and the protocol version.
- Header section. This series of lines contains HTTP headers that are used to pass other information about the request, and about the client itself, to the server. A blank line then separates the header section from the entity body.
- Entity body. This section contains other data to be passed to the server. There is usually information here only when a form is submitted.

If we typed http://webmaster.merrimack.edu/simple.html as a URL into Netscape, the browser would issue an HTTP request similar to the following:

GET /simple.html HTTP/1.0
User-Agent: Mozilla/4.5 [en] (X11; SunOS 5.5.1 sun4m) Accept: image/gif, image/x-xbitmap, image/jpeg, */*

There is a request line, followed by two HTTP headers and no entity body. The request line has three parts: a request method, the document location, and the protocol version. In this case the method is a GET method, the document requested is simple.html, and the protocol is HTTP version 1.0. The client also passes the User-Agent and Accept headers to the server.

The server then responds to the request in a similar fashion:

- Status line. This line contains the protocol version, a status code, and a reason phrase.
- Header section. This series of lines contains HTTP headers that are used to pass oth information about the response, and about the server itself, to the client. A blank line then separates the header section from the entity body.
- Entity body. This section, if present, contains the document (or object) requested.

For the previous example, the server response might look something like this:

HTTP/1.1 200 OK
Date: Mon, 04 Jan 1999 00:33:10 GMT Server: Apache/1.3.1 (Unix)
Last-Modified: Tue, 20 Oct 1998 21:00:39 GMT Content-Length: 49 Content-Type: text/html

<HTML>
Welcome to the webmaster server... </HTML>

There is a status line, followed by a header section containing five headers, and the entity body, which is a simple HTML document. Like the request line, the status line has three parts: the protocol version, a status code, and a reason phrase. In this case, the server is using HTTP version

1.1, and the HTTP response code is 200, which means that the client's request was suc ful and the server's response contains the data requested. The header section contains eral headers that tell us a little bit about the server and the document returned in the entity boc

REQUEST METHODS

The request line of a client request contains an HTTP command called a request metho The server uses the method command to determine what to do with the request. There are cu ntly several methods defined by the HTTP 1.1 standard, but only a few are widely supported by HTTP servers. The most widely used methods are GET, HEAD, and POST. Method commands should be in all-capital letters.

THE GET METHOD

The GET method is used to retrieve information from the server. It is most commonly u to retrieve documents from the Web server. Nothing is passed to the server in the entit ody because this method is simply a request. The document returned by the server could be atic HTML document, output generated by a CGI program, or it could be an error generated the server if something is wrong with the request. The previous example illustrates a GET me l.

The GET method can pass information to the server (usually to a CGI program), but it mu -Q- be included as part of the URL. To pass parameters as part of the URL, the URL must followed by a question mark (?) and then the parameter pairs.

THE HEAD METHOD

The HEAD method is identical to the GET method except that the server does not re a document; it returns only the header section for the request. The HEAD method is us for verifying that a document exists for checking links or to get information about the file ty nd modification time only.

THE POST METHOD

The POST method allows the server to receive data from the client. It is most commonly u to send the data in HTML forms to the server for processing. This method passes data the server in the entity body of the request.

The PUT method is becoming more widely supported. It is used for publishing documents Web server from a client. Many of the latest HTML authoring packages support documents to a Web server via the PUT method (more on this in Chapter 3). The DE method is used to remove a document from a Web server.

SERVER RESPONSES

LAB 1.3

After an HTTP server receives a request, it attempts to process the request. If a docur requested, the Web server will attempt to find the document and return it. If form informa passed to the server, the HTTPD passes that information to the appropriate resou processing and returns any output. If the resource requested cannot be located, or if t something wrong with the request itself, the server generates an error.

The server response, like the client request, has three parts: the status line, header field the entity body. The status line contains three things: the protocol version, the status cod a description phrase. The protocol should always be HTTP. The status code is a three-dig ger result code defined by the HTTP specification. The first digit of the status co represents the category of the response. There are currently five categories:

1) Informational. The request was received and is being proc
2) Success. The client request was successful.
3) Redirection. The client request was not performed; further action must be take by the client.
4) Client error. The client's request was incomplete or incorrect and cannot be fulfilled.
5) Server error. The request was not fulfilled, due to a server problem.

Here are some of the most common response codes.

INFORMATIONAL 1XX

100 Continue The initial part of the request has been received and the client should continue.

SUCCESSFUL 2XX

200 OK — This is probably the most common response; it means that the client's request was successful and the server's response contains the resource requested.

204 No Content — The request was successful but the response is empty. The client should not do anything when it receives this message.

REDIRECTION 3XX 301 — The URL requested is no longer valid. The server should return the new location.

302 Found (Moved Temporarily) — The URL requested currently resides in a different location.

Moved Permanently

304 Not Modified — The client performed a conditional GET (If-Modified-Since header) and the document has not been modified. The entity body is not sent.

LAB 1.3

CLIENT ERROR 4XX

400 Bad Request The server could not understand the request.

403 Forbidden The client requested data that it did not have permission to access.

404 Not Found
The resource requested was not found on the server.

SERVER ERROR 5XX 500

Internal Server Error
Something unexpected

happened on the server side. The most common reason for receiving this error is a problem with a server side program.

HTTP HEADERS

The HTTP header section is used to transfer information between the client and server. A header has a name and a value associated with it. There is one header per line and each line contains the header name followed by a colon, a space, and the value of the header name. Headers are used to transfer information about the client to the server, and vice versa. They are also used to transfer data related to the returned document,

cache parameters, cookies, and other session information. Some of the most common HTTP headers are described below.

CLIENT REQUEST HEADERS

Accept	Used to specify which media types the client prefers to accept.
Cookie	Contains cookie information (name/value pair, etc.) for the URL requested.
If-Modified-Since	Used to do a conditional *GET* request. The server will return the document only if it has been modified since the date specified.
Referer	Allows the client to specify the URL of the page from which the currently requested URL was obtained.
User-Agent	Contains information about the client program originating the request. It is used to identify the browser software.

SERVER RESPONSE HEADERS

Server	Contains information about the server software handling the request.
Set-Cookie	Allows the server to set a cookie on the client browser (if permitted) for the given URL or domain.

ENTITY HEADERS

Content-Length	Specifies the size (in bytes) of the data transferred in the entity body. This header is sent for most static documents, but not for dynamically generated content (i.e., CGI programs).
Content-Type	Specifies the MIME type of the data returned in the entity body.
Expires	Specifies the time/date after which the response is considered outdated. This header is useful for caching documents—if the browser knows when the document will change, it does not need to retrieve a fresh copy until then.
Last-Modified	Specifies the date and time the document was last modified.

LAB 1.3 EXERCISES

1.3.1 Identifythe Partsofan *HTTP* Transaction

a) What are the three parts of every HTTP transaction?

1.3.2 Identify HTTP Request Methods

a) Name the three most widely used request methods.

b) What is the difference between a GET and a POST method?

c) What is the difference between a HEAD and a GET method?

1.3.3 Identify HTTP Headers and *SERVER* Responses

a) What header is sent by the client to identify and give information about the browser?

b) What header is sent by the server so that the browser can determine what type of content is being returned?

c) What header is sent by the server to identify the server software?

LAB 1.3

LAB 1.3 EXERCISE ANSWERS

1.3.1 Identifythe Partsofan *HTTP* Transaction

a) What are the three parts of every HTTP transaction?

Answer: request or response line, header section, and entity body.

A request line is sent as the first line of all HTTP requests. The browser then sends any relevant headers. An entity body is sent only when data other than the headers needs to be sent to the server. A GET method does not usually contain an entity body, but a POST or PUT method usually does.

A response line is sent as the first line of all HTTP responses. The server then sends any relevant headers and the entity body. The entity body is usually the document requested, but it could also be error information if an error occurred while trying to retrieve the document.

1.3.2 Identify *HTTP* Request M ethods

a) Name the three most widely used request methods.

Answer: GET, *POST,* and HEAD.

Currently, these are the most widely used request methods. As new features are added to the HTTP specification, other methods may become more widely used.

b) What is the difference between a GET and a POST method?

Answer: *The* GET method contains no entity body. To *pass* data to the server *it* must include the data *in* the URL *The POST* method transfers data *in* the entity body.

c) What is the difference between a HEAD and a GET method?

Answer: *The* HEAD method is used to return the header section for *a* specific document; *it* does not return the document itself.

1.3.3 Identify HTTP Headers and *SERVER* Responses

a) What header is sent by the client to identify and give information about the browser?

Answer: *The* User-Agent request header contains information about the client program originating the request. *This* is not *a* required header, but most browsers send it when *making a request. The server can use this header to determine what browser is re*questing *a* document and to tailor *its* response *if* necessary.

Netscape sends a User-Agent header similar to the following:

Mozilla/4.5 [en] (X11; U; SunOS 5.5.1 sun4m)

Internet Explorer sends a User-Agent header similar to the following:

Mozilla/4.0 (compatible; MSIE 4.01; Windows 98)

b) What header is sent by the server so that the browser can determine what type of content is being returned?

Answer: The Content-Type header indicates the media type of the data contained in the entity body. *The* server determines the type *of* data by looking *at* the file extension and referencing the types file.

c) What header is sent by the server to identify the server software?

Answer: Server header field contains information about the HTTPD software.

The Apache Web server returns a Server header similar to the following:

Server: Apache/1.3.1 (Unix)

Microsoft's IIS returns a Server header similar to the following:

Server: Microsoft-IIS/4.0

LAB 1.3 SELF-REVIEW QUESTIONS

To test your progress, you should be able to answer the following questions.

LAB 1.3

1) What is the first thing that is passed to the server when an HTTP transaction begins?
   a) ____ The request line
   b) ____ The entity body
   c) ____ The transaction line
   d) ____ The header section

2) The GET method is the only method that retrieves information from the server.
   a) ____ True
   b) ____ False

3) What is the Referer header used for?
   a) ____ It refers people to your site.
   b) ____ It redirects URLs that no longer exist.
   c) ____ It shows the link that was clicked to get to the page being requested.
   d) ____ It is not used.

-Q- -Q-

4) Headers are used by the browser to determine when a document will expire.
   a) ____ True
   b) ____ False

Answers appear *in* Appendix *A*

L A B 1 . 4

OTHER WEB-RELATED SERVERS

LAB OBJECTIVES

After completing this lab, you will be able to:

- Understand the Functionality of Proxy Servers Identify
- Other SfervicesThat May Run Alongside an HTTP Server

A server that can communicate by HTTP is a great thing because it is able to communicate with millions of other computers. Any browser can retrieve your pages and view them. For many people, a system running an HTTP server suits their needs just fine, but there are other servers that you should know about. In this lab we discuss a few of the most common servers that run alongside an HTTP server.

PROXY SERVERS

A proxy server is an intermediary server that goes between a client and the destination server—a middleman. A browser configured to use a proxy server for all requests allows the proxy server to process the request and response. Instead of connecting directly to the destination server when a request for a URL is made, the browser sends the request to the proxy. The proxy then passes the request to the destination server, receives the response, and passes the response back to the browser. This may sound like a lot of work, but having a proxy machine in the middle of the transaction allows some extra processing of the returned data to take place.

Proxy servers have three main uses: security, content filtering, and caching. Used for security purposes, the proxy can act as a firewall, allow-

ing only HTTP traffic through and rejecting other protocols. A firewall limits what kinds of services are available to people outside your local network. You might only want to allow HTTP requests to get to your server and deny FTP, telnet, and other services. Proxies can also filter data, restricting access to certain sites or analyzing content for questionable material. Caching proxy servers help improve performance by storing frequently accessed documents locally.

Security uses of proxy servers are covered in detail in Chapter 10, so let's take a look at the other two uses for proxies: filtering and caching. Restricting access to content based on file type is another possible use for a proxy. In terms of security, html documents are reasonably harmless, but executable files can pose a threat to security. A system administrator may choose to allow only nonexecutable content through the proxy, blocking .exe files and similar documents that execute on local hosts. By allowing only simple text documents and images through the proxy, it is much more difficult for viruses and hackers to gain access to computers on your side of the proxy.

LAB 1.4

Not all Web pages are cacheable, because content is dynamically generated. HTTP headers play a big role in determining if a new document needs to be retrieved or if the cached document is still valid. The Expires HTTP header specifies when the document may change. A Web cache can look at this header to determine if the document is still valid. If the Expires header is set to a time in the past, a new document is retrieved; otherwise, the cached version is returned. If the server did not set an Expires header, the client can use the If-Modified-Since header to fetch the document only if it had not been modified since a certain date. The client requests the document conditionally with a GET method, and the server returns the document or issues a 304—Not Modified response code if the document has not changed.

Your browser software must be explicitly configured to use a proxy server. Figure 1.1 shows a sample configuration dialog from Netscape Navigator. We use MediaOne Express as our Internet service provider (ISP) at home and they provide a proxy cache server for their users. The cache server stores frequently accessed Web pages so when one is requested, the cache server can return the page rather than retrieving it from a distant server on the Internet. Using the proxy server makes pages that we go to load much quicker. It also makes better use of the ISP's bandwidth by going outside the local network only when new pages need to be retrieved.

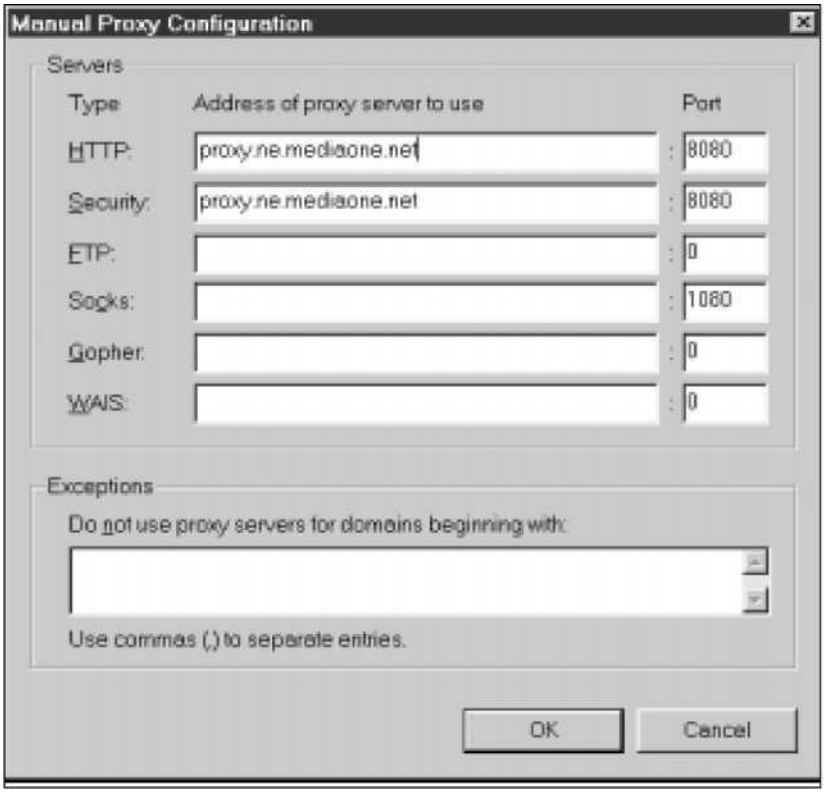

Figure 1.1 • Netscape Navigator Proxy Settings

Your ISP might provide proxy servers, but not all do. For Netscape:

- Click on “Preferences” in the Edit menu.
- Select “Proxies” from the Advanced tab.
- The default is a direct connection to the Internet—no proxies. Clicking on “Manual Proxy Configuration” allows you to select “View,” which brings up the dialog shown in Figure 1.1. Automatic Proxy configuration allows you to specify a URL containing proxy information. This allows the system administrator to change proxies dynamically.

- *FOR* EXAMPLE

To configure your browser to use a proxy server, you must first obtain the names of your local proxies or a URL that has the correct proxy configuration information.

LAB 1.4

-Q

If you don't have a proxy server already, you can set one up yourself. Many of the Web server packages discussed in Lab 4.1 offer proxy services in addition to normal HTTP server capabilities.

STREAMING AUDIO AND VIDEO

For a browser to play an audio or video file, it must first download the entire file. Over a modem connection, it takes a long time to download a few minutes of audio or a few seconds of video. The solution: streaming media, which allow a media player (or plug-in) to start playing multimedia content while the data is still being received. Instead of having to wait for the entire file to download, the player can start almost immediately. A streaming media server can broadcast live audio/video feeds (from a video capture card, for instance) or serve prerecorded clips.

LAB 1.4

HTTP does not support streaming media, so a different server must be used to publish streaming media. Browsers don't support streaming media, so a plug-in must be used to view any type of streaming content. When a user clicks on a link for a streamed file, the browser will start up the appropriate player. That player will connect to the server at a specific port and request a file or live stream, much like an HTTP transaction. As the player starts receiving the data, it may store a few seconds' worth in a buffer and then start to play the stream—whether audio, video, or both. With traditional audio and video files, the entire file must be downloaded before a player can read it. In addition, unlike HTTP, many streaming media formats may use UDP instead of TCP/IP as a network protocol.

-Q-

UDP is good at transmitting very small pieces of data quickly, and for digital audio and video, it works quite well. Unlike TCP/IP, UDP will not retransmit data if there is an error. This is fine for digital audio and video because a few bits lost here or there will hardly be noticeable. Lost or delayed data may account for pops and clicks in audio as it plays back. While TCP/IP offers reliability, it is somewhat slower than UDP, so it is used primarily when a UDP connection is unavailable for some reason.

The two leading streaming media packages are RealNetworks' RealSystem and Microsoft's Windows Media (formerly NetShow). Both packages offer similar

FTP

features and quality.

FTP (File Transfer Protocol) is used to transfer files between computers on a network. A host with a Web server running on it may also set up an FTP server so that Web pages can be uploaded to the server easily. Like HTTP,

FTP relies on client and server software. The FTP daemon (FTPD) is a program that runs on the server and allows clients to connect. It provides a means of authentication so that only authorized users can transfer files to and from the server. UNIX servers generally install an FTPD by default, and an FTP server can be installed on Windows NT along with Microsoft's IIS (Internet Information Server). FTP clients are available for just about any operating system. UNIX and Microsoft Windows both come with a simple, text-based FTP client that can be used to transfer files to any server running an FTPD. Although FTP is not the only way to transfer files to a server, it is one of the most widely supported.

DATABASES

Most business sites rely on some sort of database, either for E-commerce transaction processing or to allow access to current support documents or product information, for example. A database provides an efficient, organized way to store lots of information. Unfortunately, most databases don't provide a friendly interface that anyone can use to access this information. The Web provides a familiar, easy-to-use way of accessing data, and a Web developer can easily write programs that run on the Web server and display information from a database.

A large corporate database should typically be installed on its own dedicated server and not on a machine also used as a Web server. A large database requires lots of memory, disk space, and CPU power, so installing it on a machine that is also trying to process Web pages may be a bad idea. The database will also have a daemon running to respond to queries; this allows programs on the Web server to communicate with the database server. This type of database daemon is often called a listener. Many database packages now come with tools to make authoring Web-database applications much easier. Products such as Oracle 8I include HTML generation tools, integration with Java, and may even provide a Web server built into the database software.

SSL

By default, HTTP traffic is transmitted in clear text; it is not encrypted. This is fine for most general surfing, but if you want to start sending confidential information over the Web, it becomes an issue. Secure Sockets Layer (SSL) is a protocol that allows secure, encrypted communication over TCP/IP. It is often used with HTTP to allow information to be exchanged securely between a browser and a Web server. Most commercial Web server software includes an SSL server that can run alongside the http daemon. SSL is used mostly for Web transactions, but it can be used to encrypt any communications over TCP/IP. Netscape developed the SSL

standard that is now supported by most browsers. SSL is covered in more detail in Lab 4.5 and Chapter 13.

LAB 1.4 EXERCISES

1.4.1 Understand *THE* Functionality of *PROXY* Servers

a) What are the benefits of a caching proxy server?

LAB 1.4

b) How is a proxy used to filter content?

c) Explain what happens when a URL is requested by a browser that is configured to use a proxy.

-Q-

1.4.2 Identify Other SErvicesthat *MAY* Run Alongside *AN* HTTP Server

a) Why is a streaming audio server useful if you want to deliver audio content?

b) Why is an FTP server useful on a machine running a Web server?

LAB 1.4 EXERCISE ANSWERS

1.4.1

a) What are the benefits of a caching proxy server?

Answer: A caching proxy server helps improve performance for intranets. In general terms, *a* cache is something that *keeps* frequently u^ data available *for* quick access. *When a* u^ requests *a* URL, the proxy server checks to ^ *if* it *has a* local copy. If *it does, that copy may get returned rather than fetching the document from the real Web* site again. *This* is similar to the disk cache that *Web* browsers u^, but *by keeping all* the documents on *a* local server, many users are able to benefit. *The* speed *of* intranets is typically *very* fast compared to the connection to the Internet, ^ retrieving files from *a* local server is noticeably faster than retrieving files from *an* external server somewhere on the Internet.

To improve performance without using a dedicated proxy cache server, your Web browser most likely has a local disk cache that holds many of the Web pages you have recently viewed. If you go back to one of those pages, your browser will just grab the file off the hard drive rather than retrieve the same document from the Web server. This saves network bandwidth and makes browsing much faster on your end.

b) How is a proxy used to filter content?

Answer: There are many reasons to filter *Web* content; the most common is to deny access to certain pages Many schools *set* up proxy servers to filter "inappropriate" content. *When* the proxy receives *a* page that contains certain words that are deemed unsuitable, instead *of* returning the pace to the browser, *it* will return *a* pace saying that the page requested cannot be viewed. *This* method restricts access on *a* per-page *baas.* Some pages *at a* given site are viewable, while others that contain questionable material are blocked. Another method *of* restricting access is on *a* per-site *baas.* The proxy can be configured to block access to entire *Web* sites that are considered unacceptable.

c) Explain what happens when a URL is requested by a browser that is configured to use a proxy.

Answer: *The browser* will actually make *an* HTTP connection to the proxy server, not the *Web* server requested. *The* proxy receives the request from the browser and then makes *a* connection to the *Web* server for that URL. *The* proxy server retrieves the response and then returns the data to the client requesting it.

1.4.2 Identify Other SErvicesThat *MAY* Run Alongside *AN* HTTP Server

a) Why is a streaming audio server useful if you want to deliver audio content?

Answer: Streaming audio allows users to listen to long audio dips (or *even live audio feeds) without having to wait* for a *large audio file to download.* The *client will start* playing the audio almost instantly. This works well as long as the network is fast enough to support the constant flow of data. Compression algorithms make the audio data small enough that even a modem connection is fast enough for decent-sounding audio transmission.

b) Why is an FTP server useful on a machine running a Web server?

Answer: *FTP* provides *an easy,* standard *way of* transferring files to *a Web* server. *FTP* clients are available *for* many platforms, so just about anyone can *use* it. Since *Web pages may be created on other machines, there must be a way to publish those files* to the server. *FTP* provides some security *by* requiring *a* login and password, although anonymous logins are possible. *Most* server operating systems provide *an* FTP daemon *as part of the core OS.*

AB
.4

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LAB 1.4 SELF-REVIEW QUESTIONS

To test your progress, you should be able to answer the following questions.

1) Proxy servers are required to allow an intranet to access the Internet.
   a) _____True
   b) ____ False

2) A proxy server can be used for caching or filtering, but not both.
   a) _____True
   b) ____ False

3) Which of the following is not used to transfer files to a Web server?
   a) _____MS FrontPage server extensions
   b) ____ FTP
   c) _____Telnet
   d) _____A modem

4) Which of the following is not a function of a proxy server?
   a) _____S&curity
   b) ____ CGI programming
   c) _____Caching
   d) _____Filtering

Answers appear in Appendix A.

CHAPTER 1

TEST YOUR THINKING

The projects in this section use the skills you've acquired in this chapter. The answers to these projects are available to instructors only through a Prentice Hall sales representative and are intended to be used in classroom discussion and assessment.

1) Create a simple HTML document on your local system and view it with your favorite browser.

   a) Try changing the extension from .html to .txt and view it in your browser. Is anything different?

2) Upload the document to a server using FTP Open the correct URL up with a browser.

3) Connect to the server at port 80 with a telnet client; issue a GET command to retrieve the file.

LESSON 18.

4) CREATION OF SITES-SATELLITES IN WEB SERVERS

5) http://zn.uz/ru/-creation of sites-satellites

- === ABOUT THE PROJECT === -

Information-educational network ZiyoNET invites you to create an own site. It is a site-satellite on the domain of the third level.

Having created own site, you can:

* To tell to people about itself
* To share the knowledge and experience
* To place the useful and interesting information
* To present available at you and the information in a kind convenient for using
* To communicate with acquaintances
* To find new friends
* To receive councils
* To fill up the knowledge

Now on portal ZiyoNET it is already created more than 1000 sites-satellites in various directions, such as formation, a science, culture, a society, sports, hi-tech, business, news, entertainments and others.

Free of charge to receive the site very simply! Follow following councils:

Step 1.

It is necessary to be registered in system ID.UZ and to receive status Real ID. That it to receive it is necessary to leave inquiry at a forum. Then somebody from the participants of a forum having status Open ID or Real ID should confirm, that the questionnaire really belongs to the specified person. Then administration ID.UZ establishes status Real ID to the questionnaire of the user. After that be authorised on site ZiyoNET.UZ

Step 2.

In the top part of sites ZiyoNET.UZ or id.uz you will see the button «to Create a site», by its pressing you on the screen will have a window with rules of creation and use of sites-satellites. Attentively read them.

If all suits you, note point «It agree with rules».

Further it is necessary to fill obligatory fields where you specify: site heading, the domain – the address of your site on the Internet (the name сайта.zn.uz), section and the site description. In the list it is presented more than ten names of sections and subsections. You with ease can choose a suitable theme for your site. After filling of all fields, press the button «to Receive a site». In the opened window there will be a message on demand acceptance. The manager will check up correctness of filling of all points and conformity to rules of creation of a site.

Step 3.

After acknowledgement of the demand for registration of site-satellite ZiyoNET, on your e-mail the address of your site and the administrative panel will come. If the created site-satellite bears the character, not allowing to publish it on a portal, it will be removed, and on the electronic address of the owner of a site refusal with reason instructions will be sent. In this case it is necessary to familiarise attentively once again with Rules of creation and use of sites-satellites ZiyoNET and anew to send the demand for site registration.

The system of administration of a site is simple enough and clear.

Web the Designer gives you the full control over a site. You can create new documents and edit already existing. All changes entered by you will immediately appear on a site.

Also you can:

* To add or delete users
* To add references and pages
* To use all possibilities of the designer of sites (to create sections and headings)
* To edit and place on a site the news, useful and is fascinating-entertaining information (in text, a photo and video a format).

Answers to your questions on creation of sites-satellites ZiyoNET can be received at a forum (http://uforum.uz/forumdisplay.php? f=487