

O'zbekiston Respublikasi axborot
texnologiyalari va kommunikatsiyalarini
rivojlantirish vazirligi

Toshkent Axborot Texnologiyalari Universiteti

C++ Dasturlash asoslari fanidan

Реферат

**Mavzu: Avtomatlashtirilgan ma'lumotlar bazasini
tashkil etish**

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Mundarija

- *Avtomatlashtirilgan axborot tizimlar.*
- *Futbol o'yinlari*
- *Foydalanuvchi interfeysi*
- *Dastur kodi*
- *Xulosa*

Avtomatlashtirilgan axborot tizimlar.

Futbol o'yinlari

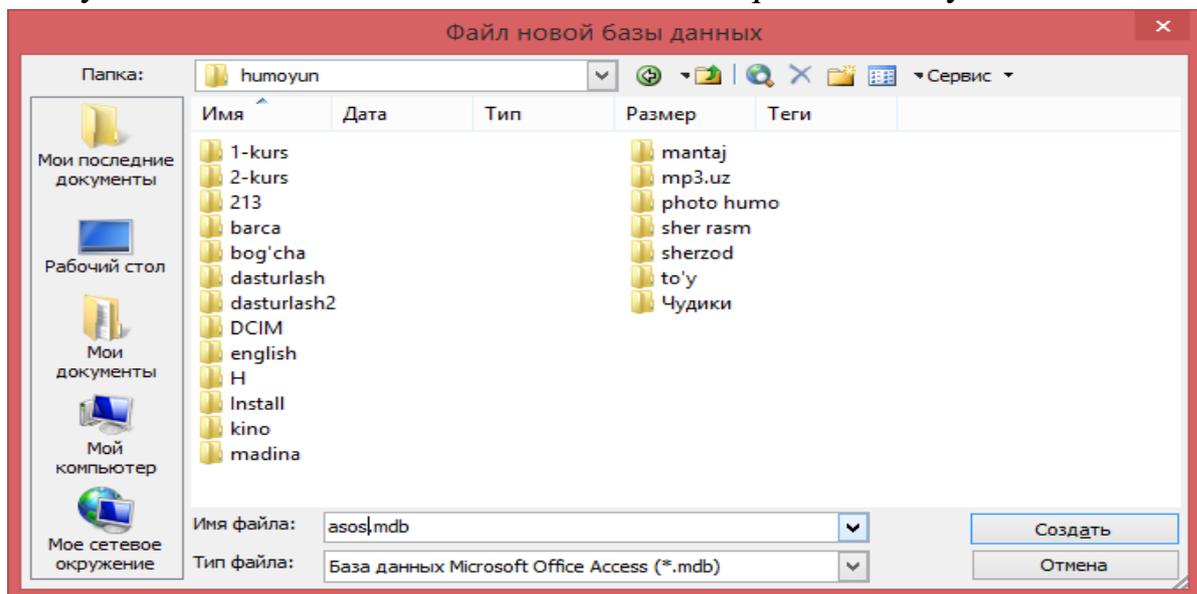
Loyiha ishi mavzuyimiz "futbol o'yinlari" bo'lgani bois biz yaratilayotgan dasturni yaxshi va tez ishlashini ta'minlashga harakat qildik.

Dasturimiz C++ Builder dasturlash muhitida va ma'lumotlar bazasi MS Access 2003 dasturlarida tuzilgan.

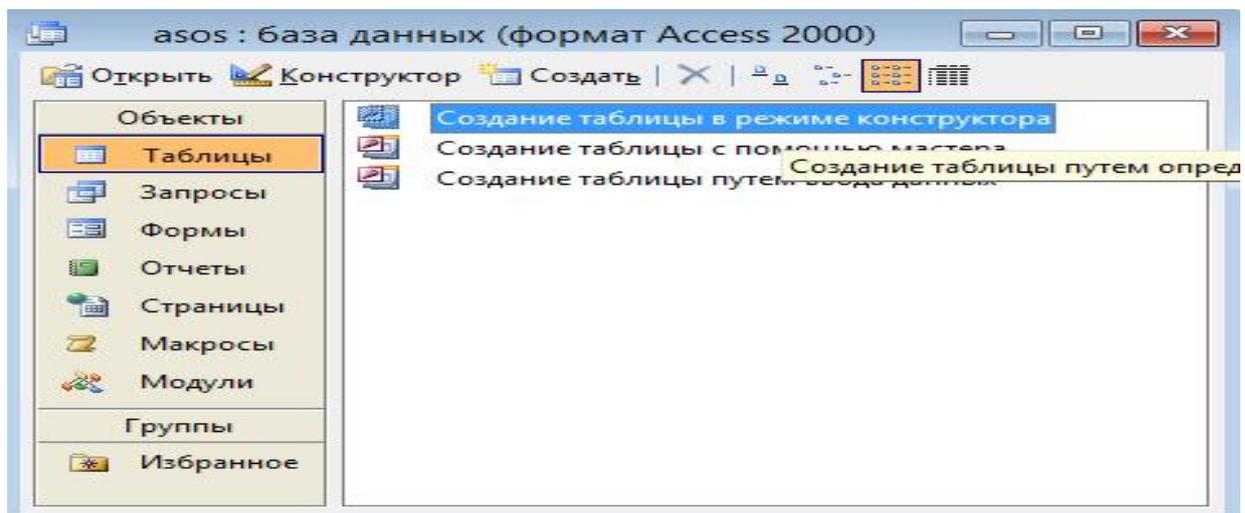
Quyidagi ketma-ketlikda loyihamiz tayyorlanishi keltirilgan.

Dastlab loyihamizni Ma'lumotlar bazasi(MB) tuzishdan boshladik, buni amalga oshishir uchun MS Acces 2003 muhitidan foydalandik. MS Acces 2003 ni ishga tushirib

Asosiy menyudan Файл → Создать(Ctrl+N) ni tanlab новая база данных ni tanlaymiz shunda bizda saqlash oynasi ochiladi.

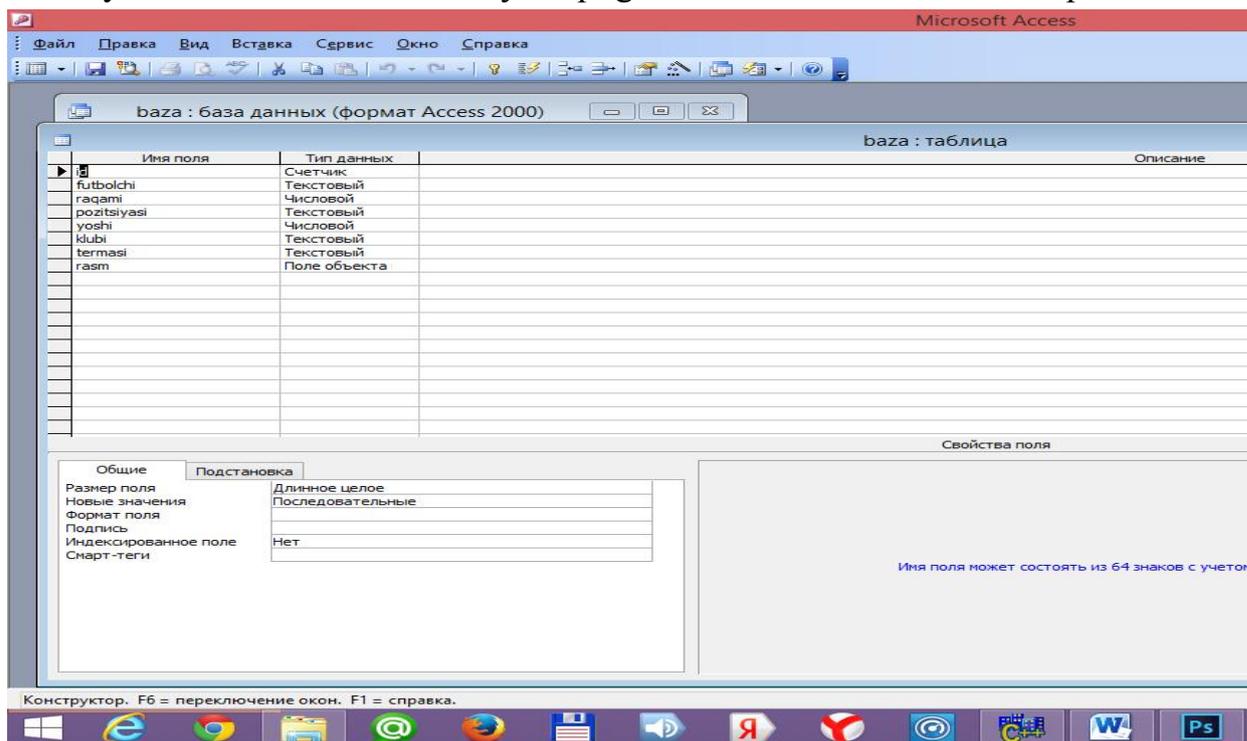


U yerdan kerakli manzilni ko'rsatib создать tugmasini bosamiz, va bizda quyidagi oyna ochiladi ya'ni bazani qaysi turini tanlash

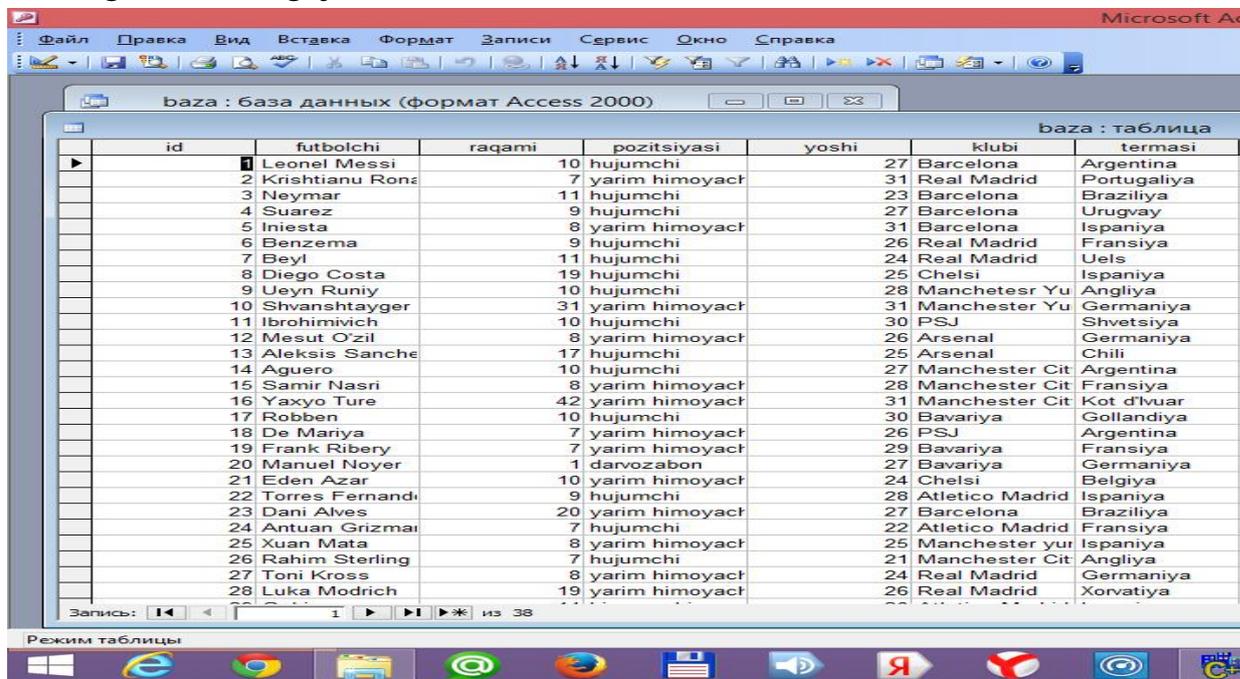


Biz uchun qulay va foydalanish oson bo'lishi uchun ko'rsatilgan rejim turini tanlash maqsadga muvofiq.

Tanlaganimizdan so'ng bizda jadvalning xususiyatlarini ifodalovchi oyna ochiladi va biz jadval ustunlarini nomini va uzunligi qiymatlarini kiritamiz. Jadval ko'rinishidagi ustunlarning birinchisi har doim ID bo'ladi va uning xususiyati счетчик bo'ladi. Keyin qolgan ustunlar nomi berib chiqiladi.



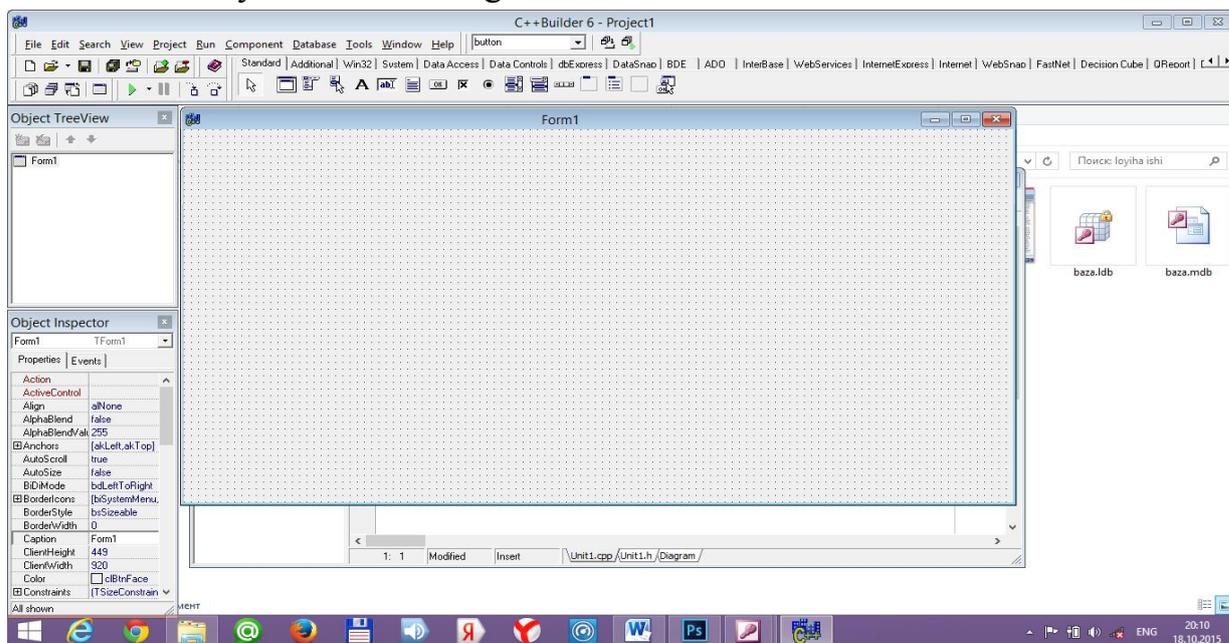
Bu oyna konstruktor oynasi bo'lib endi режим таблица qismiga o'tiladi va bizdan bazani saqlash, unga nom berish so'raladi ketma-ketlik amalga oshirilgandan so'ng jadval ochiladi.



Bazamiz tayyor bo'ldi uni saqlab MS Acces 2003 muhitidan chiqamiz.

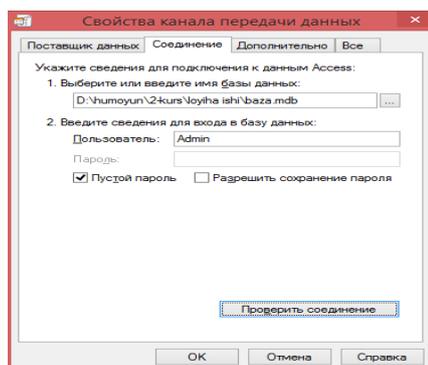
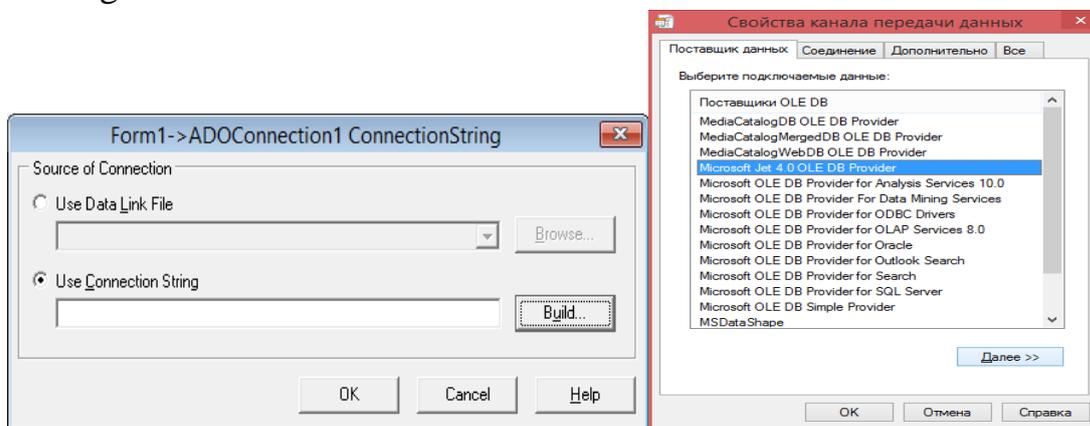
Endi loyiha ishimizning tayyor bo'lguncha barcha ishlari C++ Builder 6 dasturlash muhitida davom etadi.

Tayyor bo'lgan MB ni C++ Builder 6 dasturlash muhiti bilan bo'glaymiz. Buning uchun. Dasturiy ta'minotni ishga tushiramiz.



Bazamizni bog'lash uchun Form1 ga ADO panelidan Ado Connection va Ado Query hamda Data Acces panelidan Data Source komponentlari tashlanadi, ular ko'rinmas komponenta hisoblanadi va qayerda turishining ahamiyati yo'q.

Keyin jadvalni aks ettirish uchun Ado Connection ni ichiga kirib(ustiga 2 marta bosib) Build ni bosib, MS Jet 4.0 OLE DB Provider tnanaladi u yerdan baza joylashgan joyni ko'rsatamiz va tushganligini tekshirish maqsadida test qilinadi va OK tugmasi bosiladi.



Ado Connectionni Connected qismini True qilamiz, Login Parol so'ramasligi uchun LoginPrompt qismini False qilamiz.

Ado Query1 ni Connection qismiga Connection1 ni beramiz, Data Source qismiga Data Source1 ni beramiz.

SQL qismiga zapros(so'rov) yozamiz SELECT * FROM baza

Ado Query1 ni Active sini True qilamiz.

Data Source ni Data Set qismiga Ado Query1 ni beramiz.

Jadval bilan ishlash qulay bo'lishi uchun bizga Data Controls ni ichidan DBGrid komponentasi kerak bo'ladi uni Form1 ga tashlab Align nini alClient qilamiz va butun form ni egallaydi. Mb ni bog'lash uchun Data Source qismiga Data Source1 ni beramiz va bog'lanadi.

Endi uni shunchaki saqlaymiz(сохранить) va kompilyatsiya beramiz va ishlaydi.

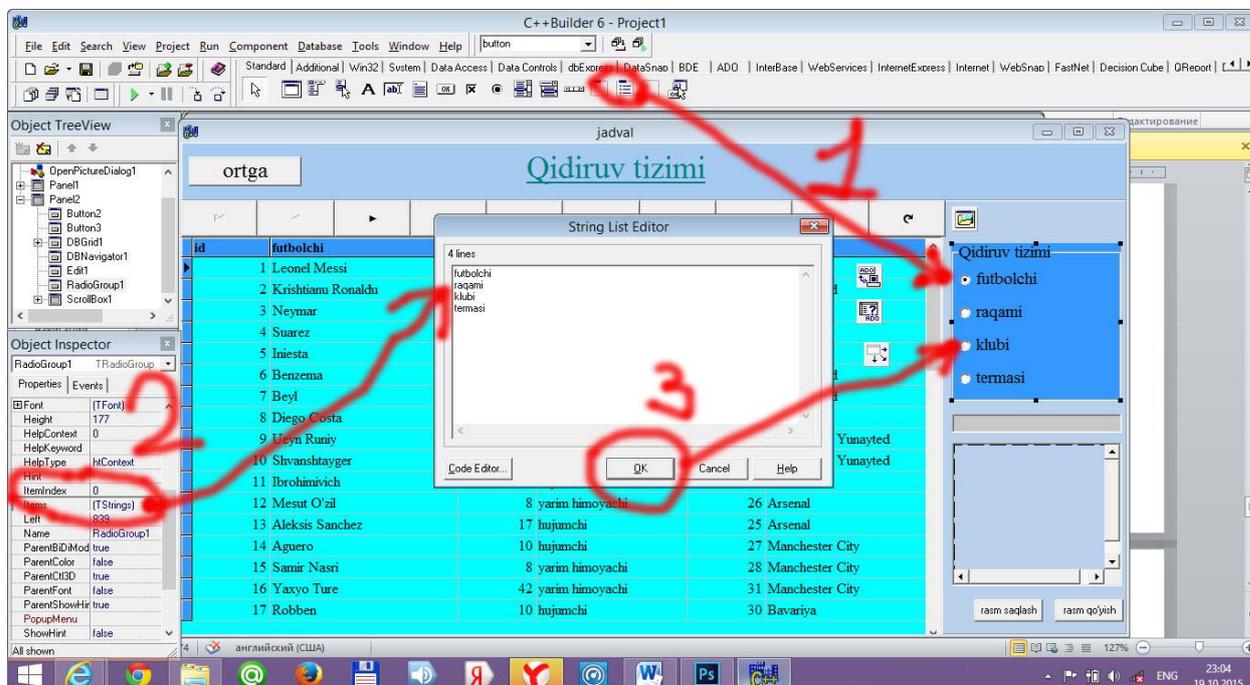
Dasturimiz saqlangan papkani ichida Debug ni ichida Project bo'lib saqlangan.

| id | futbolchi | raqami | pozitsiyasi | yoshi | klubi |
|----|--------------------|--------|-----------------|-------|---------------------|
| 1 | Leonel Messi | 10 | hujumchi | 27 | Barcelona |
| 2 | Krishtianu Ronaldu | 7 | yarim himoyachi | 31 | Real Madrid |
| 3 | Neymar | 11 | hujumchi | 23 | Barcelona |
| 4 | Suarez | 9 | hujumchi | 27 | Barcelona |
| 5 | Iniesta | 8 | yarim himoyachi | 31 | Barcelona |
| 6 | Benzema | 9 | hujumchi | 26 | Real Madrid |
| 7 | Beyl | 11 | hujumchi | 24 | Real Madrid |
| 8 | Diego Costa | 19 | hujumchi | 25 | Chelsi |
| 9 | Ueyn Runiy | 10 | hujumchi | 28 | Manchetesr Yunayted |
| 10 | Shvanshtayger | 31 | yarim himoyachi | 31 | Manchester Yunayted |
| 11 | Ibrohimovich | 10 | hujumchi | 30 | PSJ |
| 12 | Mesut O'zil | 8 | yarim himoyachi | 26 | Arsenal |
| 13 | Aleksis Sanchez | 17 | hujumchi | 25 | Arsenal |
| 14 | Aguero | 10 | hujumchi | 27 | Manchester City |
| 15 | Samir Nasri | 8 | yarim himoyachi | 28 | Manchester City |
| 16 | Yaxyo Ture | 42 | yarim himoyachi | 31 | Manchester City |
| 17 | Robben | 10 | hujumchi | 30 | Bavariya |

Jadval bilan ishlash uchun qulay bo'lishi uchun ya'ni unga ma'lumot kiritish, o'chirish, yabgilash va h.k bizga Db Navigator kerak bo'ladi. Data Controls paneli ichida. Uni formga tashlab Align ni alTop qilsak tepa qismni egallaydi.

Db Navigatorni Jadval bilan bo'g'lash uchun Data Source qismiga Data Source1 ni tanlaymiz va saqlab, kompilyatsiya beramiz. Jadval to'liq ishlaydi.

Endi jadvalimizni imkoniyatlarini oshirish maqsadida unga bir muncha yangiliklar kiritamiz. Misol uchun biz jadvaldan istalgan futbolchini klubi, raqami, jamoasi va termasi xususiyatlariga ko'ra qidirish imkoniga ega bo'laylik. Buning uchun bizga 1 ta Radiogroup kerak, uni Caption ini qidiruv tizimi deb nomladik. Uning ichiga Properties qismidan ItemsIndex ini 0 qilamiz va Items ni ishiga 4 ta xususiyat nomlarini beramiz. OK tugmasi bosilgach quyidagi natijaga erishamiz.



RadioGroup ning pastidan 1 ta Edit tashladik u ozish uchun xizmat qiladi.

Unga yozganda qidirishni bajarishi uchun ichiga quyidagicha kod yoziladi:

```
void __fastcall TForm5::Edit1Change(TObject *Sender)
```

```
{
```

```
ADOQuery1->Close();
```

```
ADOQuery1->SQL->Clear();
```

```
    if (RadioGroup1->ItemIndex==0)
```

```
        ADOQuery1->SQL->Add("select * from baza where futbolchi like '"+Edit1->Text+"%");
```

```
    if (RadioGroup1->ItemIndex==1)
```

```
        ADOQuery1->SQL->Add("select * from baza where raqami like '"+Edit1->Text+"%");
```

```
    if (RadioGroup1->ItemIndex==2)
```

```
        ADOQuery1->SQL->Add("select * from baza where klubi like '"+Edit1->Text+"%");
```

```
    if (RadioGroup1->ItemIndex==3)
```

```
        ADOQuery1->SQL->Add("select * from baza where termasi like '"+Edit1->Text+"%");
```

```
        ADOQuery1->Open();
```

```
}
```

Yana kompilyatsiyaga berib tekshirib ko'rilsa qidruv bexato va to'liq ishlaydi.

Foydalanuvchi interfeysi

Biz dasturimiz tuzish davomida foydalanuvchi interfeysi qulay va dizayn taraflama foydalanuvchiga yoqishini ta'minlashga harakat qildik.



Kirish tugmasi Button bo'lib, uni bosib dastur ichiga kirasiz.

Chiqish tugmasi orqali dasturdan chiqiladi.

Dastur haqida ma'lumot olmoqchi bo'lsangiz "dastur haqida" yozuvi ustiga bosing

Kirish tugmasi bosilganda yangi(asosiy) oyna ochiladi



Asosiy oyna ochilganda yuqori qismda bo'limlar nomi, markazda amaldagi chempionlar sur'ati va o'ng tarafda kalendar, soat. Pastki qismda ortga tugmasi mavjud bo'lib (har bir oynada bor) bosish orqali bundan oldingi oynaga qaytish mumkin.

Guruhlar tugmasini bosish orqali shu nomli oynaga o'tiladi, u yerda musobaqada ishtirok etayotgan guruhlar haqida ma'lumot berilgan.

Form4
ortga
Guruhlar

Champions League Group Stage draw

| GROUP A | GROUP B | GROUP C | GROUP D |
|----------------------|--------------------|----------------------|--------------------------|
| Paris St-Germain FRA | PSV Eindhoven NED | Benfica POR | Juventus ITA |
| Real Madrid ESP | Manchester Utd ENG | Atletico Madrid ESP | Manchester City ENG |
| Shakhtar UKR | CSKA Moscow RUS | Galatasaray TUR | Sevilla ESP |
| Malmö SWE | Wolfsburg GER | Astana KAZ | Mönchengladbach GER |
| GROUP E | GROUP F | GROUP G | GROUP H |
| Barcelona ESP | Bayern Munich GER | Chelsea ENG | Zenit St. Petersburg RUS |
| Leverkusen GFR | Arsenal ENG | Porto POR | Valencia ESP |
| AS Roma ITA | Olympiacos GRE | Dynamo Kyiv UKR | Olympique Lyon FRA |
| BATE Borisov BLR | Dinamo Zagreb CRO | Maccabi Tel Aviv ISR | Gent BEL |

Source: UEFA © GRAPHIC NEWS

Har yili kuz fasli boshlanishi bilan Yevropada katta futbol karvoni yo'lga chiqadi, ularning maqsadlari futbol ishqibozlari uchun unutilmas onlarni xadya etish, chiroyli gollar xavfli vaziyatlar, fantastik zarbalar va supper to'qnashuvlar bularning bari muhlis uchun! Chempionlar Ligasi o'yinlariga 15-16 sentabr kunlari start beriladi va o'zining belgilangan sanalarida haftaning seshanba va chorshanba bo'lib o'tadi. Guruh o'yinlari yakunlangach 1- va 2-o'rinni egallagan jamoalar keyingi bosqichga o'tishadi, 3-o'rinni olganlar Europe Ligasiga tushib ketishadi, 4-jamoa esa uyiga ravona bo'ladi. Musobaqa butun mavsum muhlislar diqqat markazida bo'ladi va hamma finalni orzuqib kutadi. Finalda ajoyib to'qnashuv bo'ladi va mavsum rasman yakunlanadi.

P/S: Eslatib o'tamiz final Italiyaning Milan shahrida bo'lib o'tadi.

Qidiruv tizimi bo'limi orqali siz istalgan futbolchini qidirip topishingiz va u haqida batafsil ma'lumot olishingiz mumkin.

Form5 taqvim
ortga
Qidiruv tizimi

| id | futbolchi | raqami | pozitsiyasi | yoshi | klubi |
|----|--------------------|--------|-----------------|-------|---------------------|
| 1 | Leonel Messi | 10 | hujumchi | 27 | Barcelona |
| 2 | Krishtianu Ronaldu | 7 | yarim himoyachi | 31 | Real Madrid |
| 3 | Neymar | 11 | hujumchi | 23 | Barcelona |
| 4 | Suarez | 9 | hujumchi | 27 | Barcelona |
| 5 | Iniesta | 8 | yarim himoyachi | 31 | Barcelona |
| 6 | Benzema | 9 | hujumchi | 26 | Real Madrid |
| 7 | Beyl | 11 | hujumchi | 24 | Real Madrid |
| 8 | Diego Costa | 19 | hujumchi | 25 | Chelsi |
| 9 | Ueyn Runiy | 10 | hujumchi | 28 | Manchetesr Yunayted |
| 10 | Shvanshtayger | 31 | yarim himoyachi | 31 | Manchester Yunayted |
| 11 | Ibrohimovich | 10 | hujumchi | 30 | PSJ |
| 12 | Mesut O'zil | 8 | yarim himoyachi | 26 | Arsenal |
| 13 | Aleksis Sanchez | 17 | hujumchi | 25 | Arsenal |
| 14 | Agüero | 10 | hujumchi | 27 | Manchester City |
| 15 | Samir Nasri | 8 | yarim himoyachi | 28 | Manchester City |
| 16 | Yaxyo Ture | 42 | yarim himoyachi | 31 | Manchester City |
| 17 | Robben | 10 | hujumchi | 30 | Bavariya |

Qidiruv tizimi

- futbolchi
- raqami
- klubi
- termasi

rasm saqlash rasm qo'yish

Fotogalereya bo'limida Chempionat rasmiy logotipi sur'atlarini ko'rishingiz mumkin. Sport bu avvalambor hurmat demakdir. Musobaqa rasmiy shiori ham hamma bir xil, ya'ni "NO TO RACISM – BIZ IRQCHILIKKA QARSHIMIZ" deb tanlangan.



Video bo'limida qiziqarli futbol matchlari o'yinlari mavjud bo'lib, ularni tomosha qilish imkoniga egasiz.

Dastur listining kodi

Dastur listening kodi har bir form ning Unit qismiga yoziladi bizning loyihamizda 7 ta form bo'lgani uchun 7 ta Unit bo'ladi kodlar yozilgan.

Unit1-> Form1 ning kod oynasiga yozilgan kod

```
//-----  
  
#include <vcl.h>  
#pragma hdrstop  
  
#include "Unit1.h"  
#include "Unit2.h"  
#include "Unit3.h"  
  
//-----  
#pragma package(smart_init)  
#pragma resource "*.dfm"  
TForm1 *Form1;  
//-----  
__fastcall TForm1::TForm1(TComponent* Owner)  
    : TForm(Owner)  
{  
}  
//-----  
  
void __fastcall TForm1::Button2Click(TObject *Sender)  
{  
    Close();  
}  
//-----  
  
void __fastcall TForm1::Button1Click(TObject *Sender)  
{  
    Form2 -> Show();  
}  
//-----  
void __fastcall TForm1::Label1Click(TObject *Sender)  
{  
    Form3->Show();  
}  
//-----
```

Form2 → Unit2

```
//-----  
#include <vcl.h>  
#pragma hdrstop  
#include "Unit1.h"  
#include "Unit2.h"  
#include "Unit3.h"  
#include "Unit4.h"  
#include "Unit5.h"  
#include "Unit6.h"  
#include "Unit7.h"  
//-----  
#pragma package(smart_init)  
#pragma resource "*.dfm"  
TForm2 *Form2;  
//-----  
__fastcall TForm2::TForm2(TComponent* Owner)  
    : TForm(Owner)  
{  
}  
//-----  
void __fastcall TForm2::Timer1Timer(TObject *Sender)  
{  
    Button1->Caption=TimeToStr(Time());  
}  
//-----  
void __fastcall TForm2::Button2Click(TObject *Sender)  
{  
    Form1 -> Show();  
}  
//-----  
void __fastcall TForm2::RadioButton1Click(TObject *Sender)  
{  
    Form3->Show();  
}  
//-----  
void __fastcall TForm2::Button3Click(TObject *Sender)  
{  
    Form4->Show();  
}  
//-----  
void __fastcall TForm2::Button4Click(TObject *Sender)  
{
```

```
Form5->Show();
}
//-----
void __fastcall TForm2::Button5Click(TObject *Sender)
{
Form6->Show();
}
//-----
void __fastcall TForm2::Button6Click(TObject *Sender)
{
Form2->Hide();
Form7->Show();
}
//-----
```

Form3 → Unit3

```
//-----
#include <vcl.h>
#pragma hdrstop
#include "Unit1.h"
#include "Unit3.h"
//-----
#pragma package(smart_init)
#pragma resource "*.dfm"
TForm3 *Form3;
//-----
__fastcall TForm3::TForm3(TComponent* Owner)
: TForm(Owner)
{
}
//-----
void __fastcall TForm3::Button1Click(TObject *Sender)
{
Form1->Show();
}
//-----
```

Form4 → Unit4

```
//-----  
#include <vcl.h>  
#pragma hdrstop  
#include "Unit4.h"  
#include "Unit2.h"  
//-----  
#pragma package(smart_init)  
#pragma resource "*.dfm"  
TForm4 *Form4;  
//-----  
__fastcall TForm4::TForm4(TComponent* Owner)  
    : TForm(Owner)  
{  
}  
//-----  
void __fastcall TForm4::Button1Click(TObject *Sender)  
{  
    Form2->Show();  
}  
//-----
```

Form5 → Unit5

```
//-----  
#include <vcl.h>  
#pragma hdrstop  
#include "Unit5.h"  
#include "Unit2.h"  
//-----  
#pragma package(smart_init)  
#pragma resource "*.dfm"  
TForm5 *Form5;  
//-----  
__fastcall TForm5::TForm5(TComponent* Owner)  
    : TForm(Owner)  
{  
}  
//-----  
void __fastcall TForm5::Button1Click(TObject *Sender)  
{  
    Form2->Show();  
}
```

```

}
//-----
void __fastcall TForm5::Edit1Change(TObject *Sender)
{
ADOQuery1->Close();
ADOQuery1->SQL->Clear();

    if (RadioGroup1->ItemIndex==0)
        ADOQuery1->SQL->Add("select * from baza where futbolchi like '"+Edit1-
>Text+"%");
    if (RadioGroup1->ItemIndex==1)
        ADOQuery1->SQL->Add("select * from baza where raqami like '"+Edit1-
>Text+"%");
    if (RadioGroup1->ItemIndex==2)
        ADOQuery1->SQL->Add("select * from baza where klubi like '"+Edit1-
>Text+"%");
    if (RadioGroup1->ItemIndex==3)
        ADOQuery1->SQL->Add("select * from baza where termasi like '"+Edit1-
>Text+"%");
    ADOQuery1->Open();
}
//-----
void __fastcall TForm5::Button3Click(TObject *Sender)
{
if(OpenPictureDialog1->Execute())
{
Image1->Picture->LoadFromFile(OpenPictureDialog1->FileName);
Image1->Visible=true;
}
}
//-----
void __fastcall TForm5::Button2Click(TObject *Sender)
{
Form5->ADOQuery1->Edit(); // rasmni saqlash
    TMemoryStream * strm = new TMemoryStream();
    Image1->Picture->Graphic->SaveToStream(strm);
    ((TGraphicField*)Form5->ADOQuery1->FieldByName("rasm"))-
>LoadFromStream(strm);
    delete strm;
    ADOQuery1->Post();
}
//-----

```

```

void __fastcall TForm5::DataSource1DataChange(TObject *Sender,
    TField *Field)
{
if(! (TBlobField*)ADOQuery1->FieldByName("rasm")->IsNull)
    {
        if(!Image1->Visible) Image1->Visible = true;
        TMemoryStream* strm = new TMemoryStream;
        TJPEGImage *ptJpg=new TJPEGImage;
        ((TGraphicField*)ADOQuery1->FieldByName("rasm"))-
>SaveToStream(strm);
        strm->Seek(0,0);
        if (*(Word*)strm->Memory == 0xD8FF)
            Image1->Picture->Graphic=ptJpg;
        Image1->Picture->Graphic->LoadFromStream(strm);
        delete strm;
        delete ptJpg;
    }
    else
        Image1->Visible=false;
}

```

//-----

Form6 → Unit6

//-----

```
#include <vcl.h>
```

```
#pragma hdrstop
```

```
#include "Unit2.h"
```

```
#include "Unit6.h"
```

//-----

```
#pragma package(smart_init)
```

```
#pragma resource "*.dfm"
```

```
TForm6 *Form6;
```

//-----

```
__fastcall TForm6::TForm6(TComponent* Owner)
```

```
    : TForm(Owner) {
```

```
}
```

//-----

```
void __fastcall TForm6::Button1Click(TObject *Sender) {
```

```
    Form2->Show();
```

```
}
```

//-----

Form7→ Unit7

```
//-----  
#include <vcl.h>  
#pragma hdrstop  
#include "Unit7.h"  
#include "Unit2.h"  
//-----  
#pragma package(smart_init)  
#pragma resource "*.dfm"  
TForm7 *Form7;  
//-----  
__fastcall TForm7::TForm7(TComponent* Owner)  
    : TForm(Owner)  
{  
}  
//-----  
void __fastcall TForm7::Button1Click(TObject *Sender)  
{  
    Form2->Show();  
}  
//-----  
void __fastcall TForm7::FormActivate(TObject *Sender)  
{  
    MediaPlayer1->Play();  
}  
//-----
```

Xulosa

XIX asrda yashar ekanmiz biz tezkor yashashga mahkummiz va buni ortig'ini bilan bajarmoqdamiz.

Agar rivojlanishdan ortda qolsak biz oqim ajrab qolamiz. Bugun texnika shiddat bilan oldinga qarab siljimoqda. Insonlar texnikani yaratmoqda uni rivojlantirmoqda. Umuman inson o'z hayotini kundan-kunga yaxshilamoqda va bu ijobiy natijalarga olib kelmoqda. Birgina misol “gadgetlar”, inson o'z ishlarini tartibli qilishda va yaxshi natijalarga erishish uchun gadgetlardan foydalanmoqda. Bizning dasturimiz ham futbol ixlosmandlari uchun o'ziga xos gadget hisoblanadi.

Dastur tuzish davomida turli xatoliklarga yo'l qo'ydik, ularni ustozlar yordamida bartaraf etdik. C++ dasturlash tilining imkoniyatlari juda kengligiga yana bir bor ishonch hosil qildik. Loyiha ishimizni kelajakda yaxshi dasturchi bo'lishga undovchi dastlabki mustaqil tarzda tuzgan dasturimizdir. Ko'ring, foydalaning, baho bering.

Foydalanilgan adabiyotlar

1. Mo'minov B.B "Informatika"
2. Qudrat Abdurahimovning C++ Builder.exe yordamchi o'quv qo'llanmasi
3. Internet materiallari asosida tayyorlandi.
4. А.Я. Архангельский C++ Builder 6 СПРАВОЧНОЕ ПОСОБИЕ Книга 1 Язык C++