

LABORATORIYA MASHG'ULOTI MAVZUSI: Sodda dasturlarni tuzish

LABORATORIYA MASHG'ULOTINI OLIB BORISH TEXNOLOGIYASI

Vaqt –2 soat	Talabalar soni: 10-15 nafar
O'quv mashg'uloti shakli	Laboratoriya mashg'uloti
O'quv mashg'uloti rejasi	<ol style="list-style-type: none"> 1. Delphi komponentlari 2. Delphi imkoniyatlaridan foydalanib sodda dastur yaratish
O'quv mashg'ulotining maqsadi: Talabalarda ma'ruzada olingan bilimlarni mustaxkamlash, dasturlash ko'nikmalarini shakllantirish, yechimlarning turli variantlarini aniqlash.	
O'quv faoliyatining natijalari:	
Pedagogik vazifalar: - laboratoriya topshiriqlarini tarqatish; -laboratoriya ishini bajarish va topshirish tartibini tushuntirish; -juftlikda ishlab, o'z xulosalarini asoslash ko'nikmalarini rivojlantirish	Talaba: <ul style="list-style-type: none"> - Topshiriqlarni qabul qilib oladilar; - Topshiriqlarni bajaradilar; - O'z xulosalarini asoslab beradilar.
O'qitish uslubi va texnikasi	Birgalikda o'rganamiz, o'zaro nazorat, munozara.
O'qitish vositalari	Amaliy va laboratoriya ishlari, proektor, doska, tarqatma materiallar.
O'qitish shakli	Guruhda, individual, juftlikda o'qitish.
O'qitish sharoitlari	Komp'yuter, proektor, doska bilan ta'minlangan, guruhda dars o'tishga moslashtirilgan auditoriya

LABORATORIYA MASHG'ULOTINING TEXNOLOGIK KARTASI

Bosqichlar, vaqti	Faoliyat mazmuni	
	o'qituvchi	talaba
1-bosqich. Kirish (15 min)	1.1. Laboratoriya xonasidagi talabalarining darsga tayyorlik darajasi tekshiriladi.Faollashtiruvchi savollar (1 – ilova) beriladi. 1.2. Ishning maqsadi tushuntiriladi (2-ilova) 1.2. Har bir talabaga laboratoriya ishi tarqatiladi.	1.1.Faollashtiruvchi savollarga javob beradilar. 1.2.Laboratoriya ishi maqsadini tushunib oladi 1.3.Laboratoriya ishlarini qabul qilishadi.
2-bosqich asosiy (55 min)	2.1. Nazariy va amaliy bilimlar asosida laboratoriya ishini bajarishga kirishadi. 2.2.Vazifani bajarishda o'quv materiallari (ma'ruza matni, o'quv qo'llanma)laridan foydalanish mumkinligini eslatadi. 2.3.O'zaro nazorat, muhokama amalga oshirilishini eslatadi. Qatorlar oralab talabalarining misol ishlash va o'zaro muhokamasini kuzatadi.	2.1.O'z topshirig'ini bajaradi, zarur holda o'qituvchidan yordam so'raydi. 2.3.Tinglaydi, o'ylaydi, savollarga javob beradi, yozib oladi.
3-bosqich YAKuniy (10 min)	3.1. Mavzu bo'yicha yakuniy xulosalarni aytib o'tadi. 3.2. Talabalarining dars davomidagi faoliyatini tahlil etadi va baholaydi.(3-ilova BBB, Hatosini top, Juftini top metodlari)	3.1. Savol beradilar. 3.2. Topshiriqlarni bajaradilar.

Faollashtiruvchi savollar:

1. Qanday dasturlash tillarini bilasiz?
2. Delphi-dasturlash tili qanday yuklanadi?
3. Delphi-dasturlash tili interfeysi tuzilishini aytib bering.
4. Forma oynasini vazifalari.

2-ilova

Maqsad: Talabalarda ma'ruzada olingan bilimlarni mustaxkamlash, dasturlash ko'nikmalarini shakllantirish, Delphi imkoniyatlaridan foydalanib muloqot dasturi yaratishga o'rgatish.

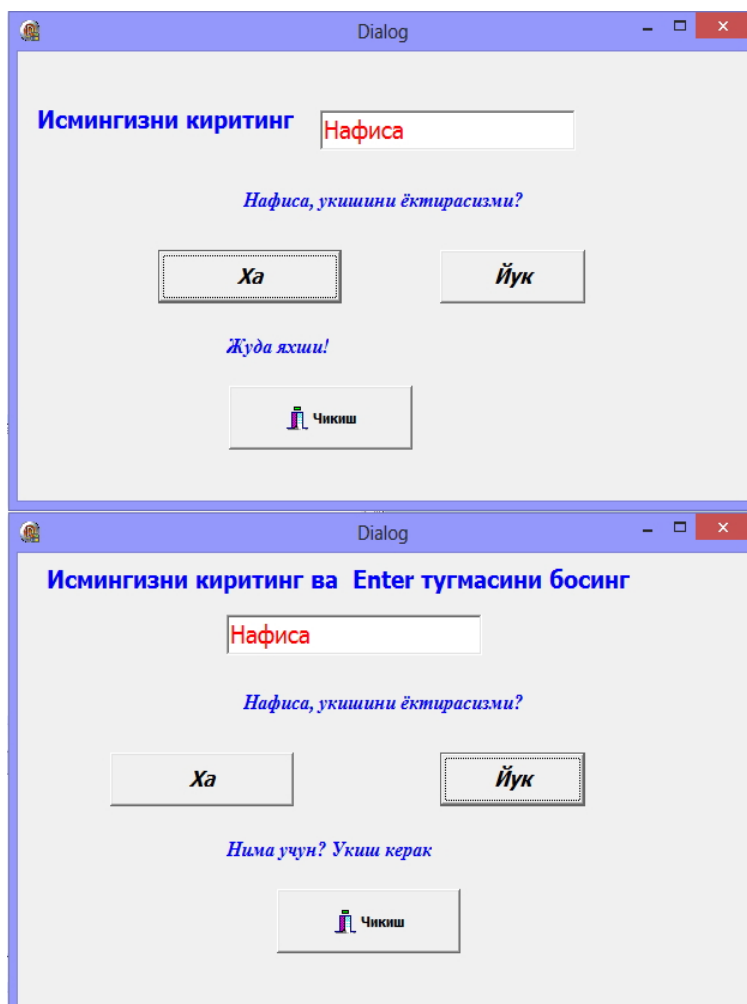
Laboratoriya ishi

1. Masalaning qo'yilishi

Quyidagi imkoniyatni yaratuvchi dastur tuzing.

Dastur ishga tushgandan so'ng, foydalanuvchi yozuv maydoniga o'z ismini kiritib, Enter tugmasini bosishi tavsiya etilsin.

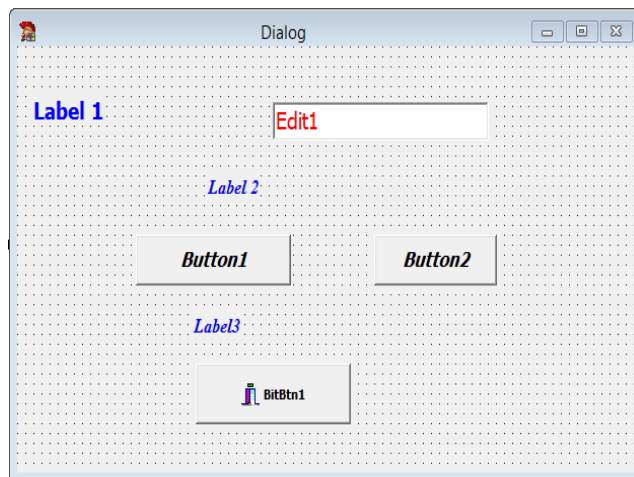
Natijada oynada savol hosil bo'lib, *Ha* yoki *Yo'q* nomli tugmalardan biri tanlanadi, va ularga mos izoh namoyon bo'ladi.




Rasm 1.

2. Dastur tuzish

1. Yangi forma yarating. Formaga *Dialog* deb nom bering.
2. Formaga quyidagi 2-rasmda ko'rsatilganidek qilib komponentlarni joylashtiring.



Rasm 2

3. Proektga nom bering va saqlang.
4. Dasturni ishga tushiring va  tugmasi yordamida dasturdan chiqing.
5. O'rnatilgan komponentlar uchun quyidagi hususiyatlarni belgilang:

Ajratilgan komponent	Ob'ektlar inspektori oynasi	Hususiyat nomi	Amal
<i>BitBtn1</i>	Properties	<i>Caption</i>	&Chiqish
		<i>Kind</i>	bkClose
<i>Label1</i>	Properties	<i>Caption</i>	Ismingizni kiriting va Enter tugmasini bosing
<i>Edit1</i>	Events	<i>OnKeyPress</i>	If key=#13 then begin Label2.Caption:=Edit1.Text + ' , Kitob o'qishni yaxshi ko'rasizmi?'; end;
<i>Button1</i>	Properties	<i>Caption</i>	<i>Ha</i>
	Events	<i>OnClick</i>	Label3.Caption:='Juda yaxshi!';
<i>Button2</i>	Properties	<i>Caption</i>	Zamenit na <i>Net</i>
	Events	<i>OnClick</i>	Label3.Caption:='Nima uchun? O'qish kerak.';
<i>Label2</i>	Properties	<i>Caption</i>	Komponent yozuvini o'chiring
<i>Label3</i>	Properties	<i>Caption</i>	Komponent yozuvini o'chiring

6. Proektni saqlang, ishga tushiring va dastur ishlashini sinab ko'ring.

3. Topshiriq

1. Foydalanuvchi ismini kiritib Enter tugmasini bosgandan keyingina *Ha* va *Yo'q* tugmalari faol holatga o'tishini ta'minlash.

Eslatma. Object Inspector oynasidan *Ha* va *Yo'q* tugmalarining Enabled xossasiga *False* qiymatini belgilang, *Edit1KeyPress* prosedurasiga quyidagi kodni kiriting:

```
Button1.Enabled := true;
Button2.Enabled := true;
```

2. Takroran muloqotni amalga oshirish uchun *Edit1*, *Label2*, *Label3* komponentlardagi mavjud qiymatlarni yo'qotish (tozalash).

Eslatma. Formaga yana bir *BitBtn* komponentini joylashtiring. Komponentning *Kind* xususiyati uchun *bkRetry*, *Caption* xususiyati uchun *&Takrorlash* qiymatini belgilang. *Takrorlash* tugmasi uchun quyidagi kodni kiriting:

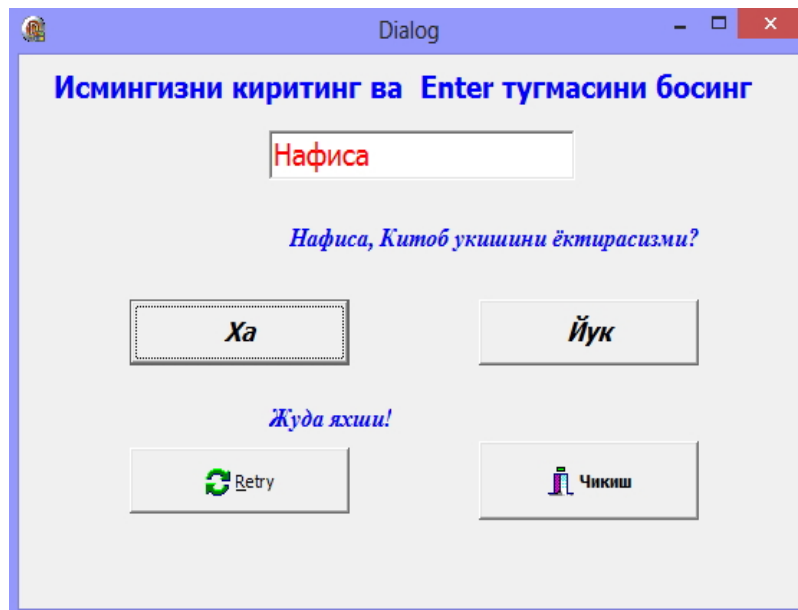
```
Label2.Caption := "";
Label3.Caption := "";
Edit1.Text := "";
```

3. Qayta muloqotni tashkil etish uchun kiritish maydonini faol holatga keltiring.

Eslatma. faollashtirish uchun quyidagi kodni kiriting:

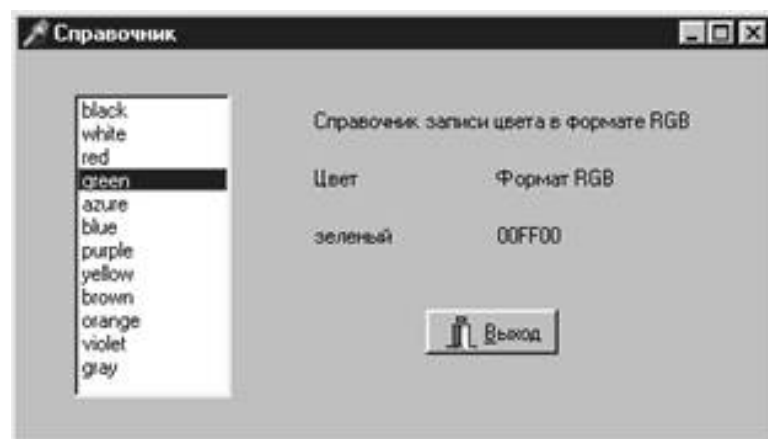
Form1.ActiveControl := Edit1.

Natija:



2-masalaning qo'yilishi:

Sichqoncha yoki yo'naltiruvchi tugmalar orqali rangning nomi ni tanlab "Enter" tugmasi bosilganda rangning nomi va RGB formatidagi kodini beruvchi dastur tuzing. Dasturdan chiqish "chiqish" tugmasi orqalli bajarilsin.



1. Qisqa tushuntirish:
Dasturda Standard palitrasi *ListBox* (ro'yxat) komponenti va *Case* operatoridan foydalaniladi.
2. Dasturni yartish
 - Yangi loyihani ochish
 - Loyiha formasiga "Ma'lumotlar" deb nom berish
 - Formaga rasmdagidek komponentlarni joylashtirish

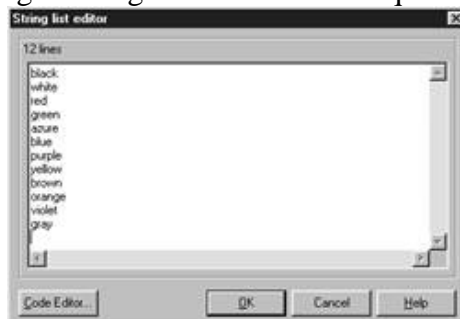


3. Loyihani Pr3.pas va Pr.dpr nomi bilan saqlash.
4. Dasturni ishga tushirib teksiring.
5. Komponentlar uchun quyidagi xossalar va amallarni belgilang:

Component	Inspector oynasi	Xossa	Amal
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BitBtn1	Properties	Caption	&Chiqish
		Kind	bkClose
Label1	Properties	Caption	RGB formatdagi rang kodi
Label2	Properties	Caption	RGB formatdagi rang nomi
Label3	Properties	Caption	Nomni o'chirish

6. ListBox1 komponentini tanlab Object Inspector oynasining Items xossasida(...)ni bosib ichki o'rnatilgan muharrirni yordamga chaqiring va ranglar nomini alohida qatorda yozib chqing.



7. Tayyor holatni saqlash uchun sichqonchani o'ng tugmasini bosib orqali "save" rejimida "Color.txt" nomi bilan saqlang va so'ngra "Ok" tugmasini bosing.



8. Listbox1 komponenti uchun quyidagi amallarni aniqlang

Komponent	Inspector oynasi	Xossa	Amal
ListBox1	Events	OnKeyPress	<pre> if key=#13 then case ListBox1.ItemIndex of 0: Label3.Caption:='qora 000000'; 1: Label3.Caption:='oq FFFFFFFF'; 2: Label3.Caption:='qizil FF0000'; 3: Label3.Caption:='yashil 00FF00'; 4: Label3.Caption:='biryuzoviy 00FFFF'; 5: Label3.Caption:='yashil 0000FF'; 6: Label3.Caption:='binafsha rang FF00FF'; 7: Label3.Caption:='sariq FFFF00'; 8: Label3.Caption:='jigarrang 996633'; 9: Label3.Caption:='to'q sariq FF8000'; 10: Label3.Caption:='binafsha rang 8000FF'; 11: Label3.Caption:='kulrang A0A0A0'; end; </pre>

9. Loyihani saqlab uni testdan o'tkazish..

3. Topshiriqlar

1. Dastur interfeysini o'zgartiring: shriftini, ekran va harflar rangini.

2. ListBox1 maydoniga kursorni olib borganda nima qilish kerakligini ko'rsatuvchi eslatma hosil bo'lsin.

Eslatma. ListBox1 komponenti uchun Hint (matnli xabar), Showhint (xabarni ko'rsatish shartmi)

xossalaridan foydalaning.

Mustaqil ish topshiriqlari

- "Yashiringan sonni topish" nomli muloqot dasturini tuzing.
- "Dasturlash tillari" nomli muloqot dasturini tuzing.
- "Kompyuter turlari" nomli muloqot dasturini tuzing.

Berilgan funksiya qiymatini argumentlarning ko'rsatilgan qiymatlarida hisoblash dasturini tuzing.

$$1. \quad t = \frac{2\cos\left(x - \frac{\pi}{6}\right)}{0.5 + \sin^2 y} \left(1 + \frac{z^2}{3 - z^2/5}\right).$$

$$x=14.26, y=-1.22, z=3.5 \times 10^{-2}$$

$$2. \quad u = \frac{\sqrt[3]{8 + |x - y|^2 + 1}}{x^2 + y^2 + 2} - e^{|x-y|} (tg^2 z + 1)^x.$$

$$x=-4.5, y=0.75 \times 10^{-4}, z=0.845 \times 10^2$$

$$3. \quad v = \frac{1 + \sin^2(x + y)}{\left|x - \frac{2y}{1 + x^2 y^2}\right|} x^{|y|} + \cos^2\left(\arctg \frac{1}{z}\right).$$

$$x=3.74 \times 10^{-2}, y=-0.825, z=0.16 \times 10^2$$

$$4. \quad w = |\cos x - \cos y|^{(1+2\sin^2 y)} \left(1 + z + \frac{z^2}{2} + \frac{z^3}{3} + \frac{z^4}{4}\right).$$

$$x=0.4 \times 10^4, y=-0.875, z=-0.475 \times 10^{-3}$$

$$5. \quad \alpha = \ln\left(y^{-\sqrt{|x|}}\right) \left(x - \frac{y}{2}\right) + \sin^2 \arctg(z).$$

$$x=-15.246, y=4.642 \times 10^{-2}, z=20.001 \times 10^2$$

$$6. \quad \beta = \sqrt{10(\sqrt[3]{x} + x^{y+2})} (\arcsin^2 z - |x - y|)$$

$$x=16.55 \times 10^{-3}, y=-2.75, z=0.15$$

$$7. \quad \gamma = 5\arctg(x) - \frac{1}{4}\arccos(x) \frac{x + 3|x - y| + x^2}{|x - y|z + x^2}.$$

$$x=0.1722, y=6.33, z=3.25 \times 10^{-4}$$

$$8. \quad \varphi = \frac{e^{|x-y|} |x-y|^{x+y}}{\arctg(x) + \arctg(z)} + \sqrt[3]{x^6 + \ln^2 y}.$$

$$x=-2.235 \times 10^{-2}, y=2.23, z=15.221$$

$$9. \quad \psi = \left|x^{\frac{y}{x}} - \sqrt[3]{\frac{y}{x}}\right| + (y - x) \frac{\cos y - \frac{z}{(y-x)}}{1 + (y-x)^2}.$$

$$x=1.825 \times 10^2, y=18.225, z=-3.298 \times 10^{-2}$$

$$10. \quad a = 2^{-x} \sqrt{x + \sqrt[4]{|y|}} \sqrt[3]{e^{x-1/\sin z}}.$$

$$x=3.981 \times 10^{-2}, y=-1.625 \times 10^3, z=0.512$$

$$11. b = y^{\sqrt[3]{|x|}} + \cos^3(y) \frac{|x-y| \left(1 + \frac{\sin^2 z}{\sqrt{x+y}} \right)}{e^{|x-y|} + \frac{x}{2}}.$$

$$x=6.251, y=0.827, z=25.001$$

$$12. c = 2^{(y^x)} + (3^x)^y - \frac{y \left(\arctg z - \frac{\pi}{6} \right)}{|x| + \frac{1}{y^2 + 1}}.$$

$$x=3.251, y=0.325, z=0.466$$

$$13. f = \frac{\sqrt[4]{y + \sqrt[3]{x-1}}}{|x-y|(\sin^2 z + tgz)}.$$

$$x=17.421, y=10.365 \times 10^{-3}, z=0.828 \times 10^5$$

$$14. g = \frac{y^{x+1}}{\sqrt[3]{|y-2|} + 3} + \frac{x + \frac{y}{2}}{2|x+y|} (x+1)^{-1/\sin z}$$






$$x=12.3 \times 10^{-1}, y=15.4, z=0.252 \times 10^3$$

$$15. h = \frac{x^{y+1} + e^{y-1}}{1+x|y-tgz|} (1+|y-x|) + \frac{|y-x|^2}{2} - \frac{|y-x|^3}{3}$$

$$x=2.444, y=0.869 \times 10^{-2}, z=-0.13 \times 10^3$$

4-Ilova O'quv topshiriq:

Juftini top

Komponent	Komponent nomini toping	Komponent nomi
		Label
		Edit
		Button
		Memo
		Form

BBB jadvali

№	Mavzu savollari	Bilaman	Bilishni istayman	Bilib oldim
1.	Label komponenti			
2.	Edit komponenti			
3.	Memo matn komponenti			
4.	Button tugmachasi			
5.	ListBox komponenti			
6.	ComboBox komponenti			
7.	Boshlang'ich forma ilovasini yaratish			
8.	Hodisa va uni qayta ishlash			
9.	Loyihani saqlash.			
10.	Tanlash tugmalarini o'rnatish			

“Hatosini top” texnologiyasi uchun dastur

To’g’ri dastur	Noto’g’ri dastur
<pre>if key=#13 then case Listbox1.ItemIndex of 0: Label3.Caption:='qora 000000'; 1: Label3.Caption:='oq FFFFFFFF'; 2: Label3.Caption:='qizil FF0000 '; 3: Label3.Caption:='yashil 00FF00'; 4: Label3.Caption:='biryuzoviy 00FFFF'; 5: Label3.Caption:='yashil 0000FF '; 6: Label3.Caption:=' binafsha rang FF00FF'; 7: Label3.Caption:='sariq FFFF00'; 8: Label3.Caption:='jigarrang 996633 '; 9: Label3.Caption:='to’q sariq FF8000 '; 10: Label3.Caption:='binafsha rang 8000FF '; 11: Label3.Caption:='kulrang A0A0A0'; end;</pre>	<pre>if key=13 then case Listbox1.ItemIndex of 0: Label3.Caption:='qora 000000'; 1: Label3.Caption:='oq FFFFFFFF'; 2: Label3.Caption:='qizil FF0000 '; 3: Label3.Caption:='yashil 00FF00'; 4: Label3.Caption:='biryuzoviy 00FFFF'; 5: Label3.Caption:='yashil '; 6: Label3.Caption:=' binafsha rang; 7: Label3.Caption:='sariq FFFF00'; 8: Label3.Caption:='jigarrang 996633 '; 9: Label3.Caption:='to’q sariq FF8000 '; 10: Label3.Caption:='binafsha rang 8000FF '; 11: Label3.Caption:='kulrang A0A0A0'; end; end.</pre>