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TOSHKENT ARXITEKTURA – QURILISH INSTITUTI  
QURILISHNI BOSHQARISH FAKULTETI  
“AXBOROT TEXNOLOGIYALARI” KAFEDRASI

«QURILISHDA AXBOROT TEXNOLOGIYALARI»  
fanidan

## 2-HISOB GRAFIK ISHI

**MAVZU:** C++ dasturlash tilida masalalarni dasturini tuzish

**Bajardi:** \_\_\_\_\_.

**Guruh:** \_\_\_\_\_

**Tekshirdi:** \_\_\_\_\_

## **Reja**

### **Nazariy qism**

**1 masala( izoh: masala sharti yoziladi)**

**2 masala(masala sharti yoziladi)**

**3 masala(masala sharti yoziladi)**

### **Xulosa**

## 1. Butun sonlarga oid masalalar

$$Z = \frac{a}{a * \varphi * (R + \mu b * r)}; \quad \text{здесь } a = \frac{3r^2}{R^2 - r^2}, b = \frac{R^2 + r^2}{R^2 - r^2};$$

### Dastur kodi

```
#include <iostream>
#include <math.h>
using namespace std;
int main()
{
    float Z,a,f,u,b,r,R;

    cout<<"f ni kiriting f=";
    cin>>f;

    cout<<"u ni kiriting u=";
    cin>>u;

    cout<<"R ni kiriting R=";
    cin>>R;

    cout<<"r ni kiriting r=";
    cin>>r;

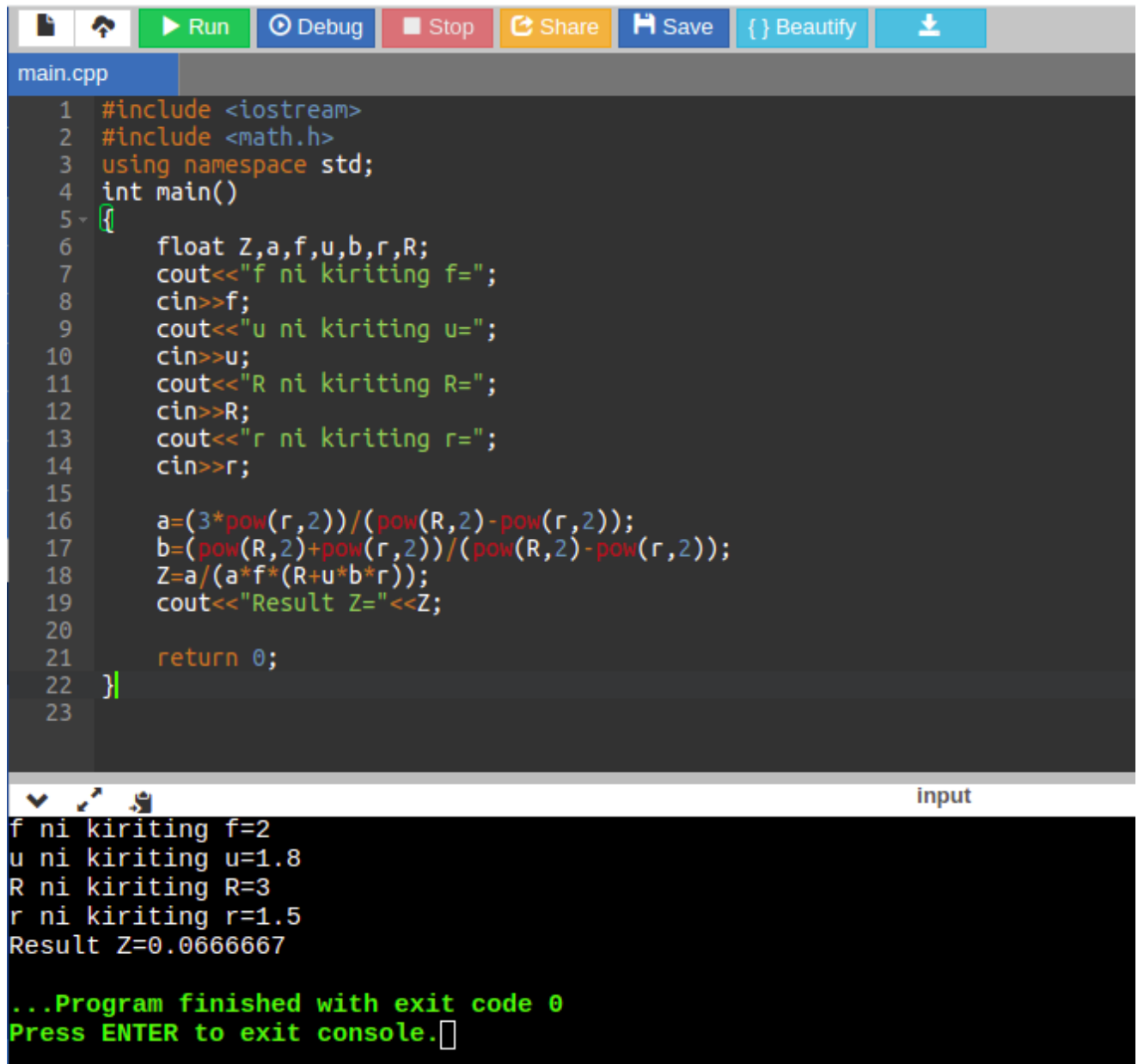
    a=(3*pow(r,2))/(pow(R,2)-pow(r,2));
    b=(pow(R,2)+pow(r,2))/(pow(R,2)-pow(r,2));

    Z=a/(a*f*(R+u*b*r));

    cout<<"Result Z="<<Z;

    return 0;
}
```

## Dastur Natijasi:



The image shows a C++ IDE interface. The top toolbar includes icons for file operations, a 'Run' button, a 'Debug' button, a 'Stop' button, a 'Share' button, a 'Save' button, a 'Beautify' button, and a download icon. The editor window displays a C++ program in 'main.cpp' with line numbers 1 through 23. The code defines variables Z, a, f, u, b, r, R and calculates Z based on user input for f, u, R, and r. The output window at the bottom shows the program's execution with the input values and the resulting Z value.

```
1  #include <iostream>
2  #include <math.h>
3  using namespace std;
4  int main()
5  {
6      float Z,a,f,u,b,r,R;
7      cout<<"f ni kiriting f=";
8      cin>>f;
9      cout<<"u ni kiriting u=";
10     cin>>u;
11     cout<<"R ni kiriting R=";
12     cin>>R;
13     cout<<"r ni kiriting r=";
14     cin>>r;
15
16     a=(3*pow(r,2))/(pow(R,2)-pow(r,2));
17     b=(pow(R,2)+pow(r,2))/(pow(R,2)-pow(r,2));
18     Z=a/(a*f*(R+u*b*r));
19     cout<<"Result Z="<<Z;
20
21     return 0;
22 }
23
```

input

```
f ni kiriting f=2
u ni kiriting u=1.8
R ni kiriting R=3
r ni kiriting r=1.5
Result Z=0.0666667

...Program finished with exit code 0
Press ENTER to exit console.
```

2

$$y = \begin{cases} x^2 - 7, x \geq -3 \\ 56/(x^2 - 7), x < -3 \end{cases}$$

### Dastur kodi

```
#include <iostream>
#include <math.h>
using namespace std;
int main()
{
    float x,y;
    cout<<"x ni kiriting x=";
    cin>>x;
    if(x>=3) {
        y=pow(x,2)-7;
    }
    else{
        y=56/ (pow(x,2)-7) ;
    }
    cout<<"Result y="<<y;
    return 0;
}
```

Dastur natijasi:



The image shows a screenshot of a C++ IDE. At the top, there is a toolbar with buttons for Run, Debug, Stop, Share, Save, Beautify, and a download icon. Below the toolbar, the file name 'main.cpp' is displayed. The code in the editor is as follows:

```
1 #include <iostream>
2 #include <math.h>
3 using namespace std;
4 int main()
5 {
6     float x,y;
7     cout<<"x ni kiriting x=";
8     cin>>x;
9     if(x>=3){
10         y=pow(x,2)-7;
11     }
12     else{
13         y=56/(pow(x,2)-7);
14     }
15     cout<<"Result y="<<y;
16     return 0;
17 }
18
```

Below the code editor, there is a console window. The output of the program is shown, including the input '4' and the result '9'. The console also displays a message indicating that the program finished with exit code 0 and prompts the user to press ENTER to exit the console.

```
x ni kiriting x=4
Result y=9

...Program finished with exit code 0
Press ENTER to exit console.
```

3


$$y = 2x^3 + \sqrt[3]{x+1}$$

$$X \in [-2; 0]; \Delta x = 0,2$$

### Dastur kodi

```
#include <iostream>
#include <math.h>
using namespace std;
int main()
{
    float y;
    for(float x=-2;x<=0; x+=0.2) {
        y=2*pow(x,3)+pow((x+1),1/3);
    }
    cout<<"Result y="<<y;
    return 0;
}
```

## Dastur Natijasi



The image shows a C++ IDE interface. At the top, there is a toolbar with buttons for Run (green), Debug (blue), Stop (red), Share (orange), Save (dark blue), Beautify (light blue), and a download icon. Below the toolbar, the file name 'main.cpp' is displayed. The code editor contains the following C++ code:

```
1 #include <iostream>
2 #include <math.h>
3 using namespace std;
4 int main()
5 {
6     float y;
7     for(float x=-2;x<=0; x+=0.2){
8         y=2*pow(x,3)+pow((x+1),1/3);
9     }
10    cout<<"Result y="<<y;
11    return 0;
12 }
13
```

Below the code editor, there is a console window. The console output shows the result of the program execution:

```
Result y=0.984

...Program finished with exit code 0
Press ENTER to exit console.
```



4

$$y = \prod_{i=1}^6 b_i^2 / x_i$$

```
#include <iostream>
#include <stdlib.h>
#include <time.h>
#include <math.h>
using namespace std;
int main()
{
    srand(time(NULL));
    int b[6], x[6];
    float P=1;
    for(int i=0; i<=5; i++){
        b[i]=rand()%100+1;
        x[i]=rand()%100+1;
        P*=pow(b[i], 2)/x[i];
    }
    cout<<"Result P="<<P;
    return 0;
}
```

## Dastur natijasi:



The image shows a C++ IDE interface. At the top, there is a toolbar with buttons for Run, Debug, Stop, Share, Save, Beautify, and a download icon. Below the toolbar, the file name 'main.cpp' is displayed. The code editor contains the following C++ code:

```
1  #include <iostream>
2  #include <stdlib.h>
3  #include <time.h>
4  #include <math.h>
5  using namespace std;
6  int main()
7  {
8      srand(time(NULL));
9
10     int b[6],x[6];
11     float P=1;
12     for(int i=0; i<=5;i++){
13         b[i]=rand()%100+1;
14         x[i]=rand()%100+1;
15
16         P*=pow(b[i],2)/x[i];
17     }
18
19
20     cout<<"Result P="<<P;
21     return 0;
22 }
23
```

Below the code editor, there is a console window. The output of the program is displayed as follows:

```
Result P=3.16758e+13
...Program finished with exit code 0
Press ENTER to exit console.
```