

This is a C++ program to find area of a rectangle, circle and triangle. Class diagram of program also given below.

Manually we can find the area of a **rectangle** by using equation:

$$\text{Area} = \text{Breadth} * \text{Length.}$$

Also we can find the area of a **circle** by using equation:

$$\text{Area} = 3.14 * (\text{radius})^2$$

Also we can find the area of a **triangle** by using equation:

a = length of first side

b = length of second side

c = length of third side

$$s = (a + b + c) / 2$$

$$\text{Area} = \text{sqrt}(s * (s - a) * (s - b) * (s - c))$$

-where sqrt stands for square root

### Class Diagram

<b>Class Name:</b> areacalc
<b>Data members:</b> arr[MAX]:int count:int
<b>Methods:</b> area(float) area(int,int) area(float,float,float)

## Program Code

```
#include<math.h>
#include<iostream.h>
#include<conio.h>
class areacalc
{
    private:
    public: void area(float r);
           void area(int a,int b);
void area(float a,float b,float d);
};
void areacalc::area(float r)
{ cout<<"Area of Circle="<<(3.14*r*r);
}
void areacalc::area(int a,int b)
{ cout<<"\n Area of Rectangle="<<(a*b);
}
void areacalc::area(float a,float b,float c)
{ float s,ar;
s=(a+b+c)/2;
ar= sqrt(s*(s-a)*(s-b)*(s-c));
cout<<"\nArea of Triangle="<<ar;
}

void main()
{ clrscr();
areacalc ac;
int r,a,b,c,d;
    cout<<"\n Choose your option";
cout<<"\n.....\n 1-
rectangle\n 2-circle\n 3-triangle";
cout<<"\n Enter your choice :";
cin>>c;

        switch(c)
        {
case 1:cout<<"\n enter breadth and length:";
        cin>>a>>b;
        ac.area(a,b);
        break;
case 2:cout<<"\n enter the radius of circle:";
        cin>>r;
        ac.area(r);
        break;
case 3:cout<<"\n enter the three side of triangle:";
        cin>>a>>b>>d;
        ac.area(a,b,d);
        break;
default:cout<<"invalid choice";
        }
getch();
}
```

## **Sample Output**

Choose your option

.....

1-rectangle

2-circle

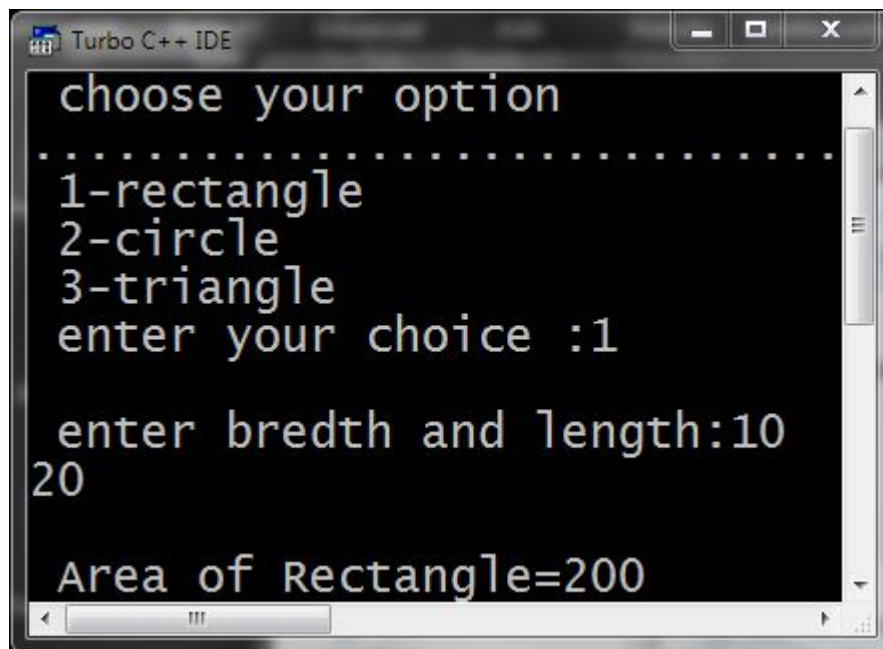
3-triangle

Enter your choice : 1

Enter Breadth and Length : 10

20

Area of rectangle = 200



```
Turbo C++ IDE
choose your option
.....
1-rectangle
2-circle
3-triangle
enter your choice :1

enter bredth and length:10
20

Area of Rectangle=200
```

<http://www.infolet.org/2012/09/c-program-to-find-area-of-rectangle.html>