

## Assignment No. (01)

Aim → Write a program to compute the area of triangle and circle by overloading the area() function.

Theory → C++ is a general purpose programming language created by Bjarne Stroustrup as an extension of C programming language.

- "C with classes", The language has expanded significantly overtime, and the modern C++ now has object oriented, generic and functional features in addition to facilities for low level memory manipulation.

### Features of C++ programming Language →

- C++ is an open ISO-standardized language.
- It comes with an compiled language category.
- Strongly typed unsafe language.
- Supports both manifest and inferred typing.
- Supports both static and dynamic inferred typing.
- Offers many paradigm choices.
- ~~App~~ A portable language.
- Can be upward compatible with C.
- Comes with incredible library support.

## Function Overloading . —→

- Function overloading is a feature of a programming language that allows one to have many functions with same name but with different signatures.

## Getting started with C++ . —→

- A text editor, like Notepad, MSword or there are some advanced IDEs such as code blocks and vs code can be used.

## C++ IDE Installation . —→

- An IDE (Integrated Development Environment) is used to edit and compile the code.
- There are many popular IDEs like, Code::Blocks, Eclipse and Visual studio.

Note —→ A web based IDE's can work as well, but functionality is limited.

## C++ Quickstart . —→

- Creating first C++ program.
- Open Codeblocks and go to File > New > Empty file  
write code and save file as myfirstcpp.cpp.

myfirstcpp.cpp

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello World";
    return 0;
}
```

Program code :

```
#include<iostream>

#include<math.h>

using namespace std;

int area_circle(float r);

int area_triangle(float a, float b, float c);

int main()
{
    float a,b,c,r;
    cout<<"Enter the three sides of triangle respectively : ";
    cin>>a>>b>>c;
    cout<<"Enter the Radius of the circle : ";
    cin>>r;
    cout<<"Area of Triangle is : "<<area_triangle(a,b,c)<<endl;
    cout<<"Area of Circle is : "<<area_circle(r);

    return 0;
}

int area_circle(float r){
```

```

int area = 3.14*r*r;
return area;
}

int area_triangle(float a,float b,float c){

float s = (a + b + c) / 2;
float areat = sqrt(s * (s - a) * (s - b) * (s - c));
return areat;

}

```

Output of the program:

```

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\rudra\OneDrive\Desktop\Learnings\CPP TheNewboston\Day 3> cd "c:\Users\rudra\
pp -o main } ; if ($?) { .\main }
Enter the three sides of traingle respectively : 5 6 4
Enter the Radius of the circle : 5
Area of Triangle is : 9
Area of Cirlce is : 78
PS C:\Users\rudra\OneDrive\Desktop\Learnings\CPP TheNewboston\Day 3> █

```