



Tutorial Link [https://codequotient.com/tutorials/Function Overloading/5b38c52fc6a1d0259e728e74](https://codequotient.com/tutorials/Function%20Overloading/5b38c52fc6a1d0259e728e74)

## TUTORIAL

# Function Overloading

## Chapter

### 1. Function Overloading

#### Topics

#### 1.4 Precautions for Function Overloading

The same name can be used to create a number of functions that perform different tasks. Defining multiple functions with the same name is known as function overloading or function polymorphism. The overloaded functions must be different in number of arguments or types of arguments or order of arguments. If two functions have the same number of arguments and same types then they cannot be overloaded. The example shows the overloaded function find\_Area to find the area of triangle, rectangle and circle.

```
1  #include<iostream>
2  #include<cstdio>
3  #include<cmath>
4  // Include headers as needed
5
6  using namespace std;
7
8  int find_Area ( int , int );
9  float find_Area( double, double );
10 float find_Area( double );
11
12 int main( )
```

**C++**

```
13 {
14     int areaR;
15     float areaT;
16     float areaC;
17     areaR = find_Area(5,15);
18     areaT = find_Area(5.5,1.5);
19     areaC = find_Area(5.3);
20     cout<< "Area of rectangle is " << areaR<<endl;
21     cout<< "Area of triangle is " << areaT<<endl;
22     cout<< "Area of circle is " << areaC<<endl;
23     return 0;
24 }
25 int find_Area(int len , int bh)
26 {
27     return ( len * bh );
28 }
29 float find_Area(double bs , double ht)
30 {
31     return (0.5 * bs * ht );
32 }
33 float find_Area( double r)
34 {
35     return ( 3.142857 * r * r );
36 }
37
38
```

### OUTPUT:

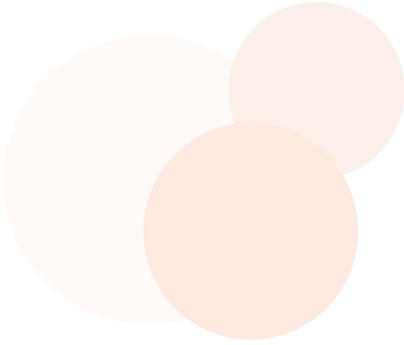
```
area of rectangle is 75
area of triangle is 4.125
area of circle is 88.282853
```

## Precautions for Function Overloading

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a) Function prototypes must be declared before main ( );

- b) Variable should be passed instead of passing constants directly. It will avoid ambiguity.
- c) In function overloading, more than one function has to be actually defined and occupy memory.
- d) Only the functions that basically perform the same types of tasks, on different sets of data, should be overloaded.



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