

```
getch ( ) ;
}
```

3. Functions with Arguments and No Return Value:

A function that **takes input (arguments)** but **does not return any value (void)**. It is typically used to display results or perform actions directly.

```
#include<iostream.h>
# include<conio.h>
```

```
void calculateArea(double width, double height)
```

```
{
    double area = width * height;
    cout << "Rectangle Area: " << area << endl;
}
```

```
int main() {
    double w, h;
    cin >> w >> h;
    calculateArea(w, h); // Direct call with arguments
    getch ( ) ;
}
```

10.5 5.0 Rectangle Area: 52.5

4. Functions with Arguments and a Return Value:

A function that **takes input (arguments)**, performs a computation, and **returns a value** to the calling program. This allows the main program to either store the result in a variable or use it directly in expressions.

```
#include<iostream.h>
# include<conio.h>
```

```
int powno(int a) // Function to calculate the square (power 2) of a number
```

```
{
    return a * a;
}
```

```
int main() {
    int x;
    cout << "enter the number";
```

```
cin>>x;

// Direct use of the function inside cout return sequar
cout << "The power of x is: " << powno(x) << endl;

// OR: Store the result in a variable for later use
int result = powno(10);
cout << "Stored Result: " << result << endl;
    getch ( ) ;
}
```

enter the number 5 The power of x is: 25 Stored Result: 100

7.3 Function Definition

7.3.1 Definition before main function

Functions can be defined before the main() function. In this case, the function is written first, then it is called inside main().

Example 1: Write a C++ program to read two numbers and return the maximum number between them using a function. **Type: Arguments + Return Value**

```
#include<iostream.h>
# include<conio.h>
int max ( int a , int b )
{
int max(int a, int b)
{
    if (a > b)
        return a;
    else
        return b;
}
main ( )
{
    cout << max (5, 6) ; // call for function, 5 and 6 are actual Arguments
    getch ( ) ;
}
```

<u>Output:</u> 6

Example 2: Write a C++ program to read two numbers and return the sum of these numbers using a **function**. **Type: Arguments + Return Value**

```
#include<iostream.h>
# include<conio.h>
int sum ( int a , int b )
{
int r ;
return r = a +b;
}
main ( )
{
    int x, y, z ;
    cin >> x >> y ;
    z = sum ( x , y ) ; // call for function
    cout << "The result is " << z ;
    getch ( ) ;
}
```

Output:

```
99
10
The result is 109
```

Note:

```
int  sum ( int a , int b )
      ↑99 ↑10
z = sum (x , y);
z = sum(99, 10);
a = 99 , b = 10 , r = 109
return 109 → stored in z
```

7.3.2 Definition after main function (prototype)

A **function prototype** is a declaration of a function written **before main()**, while the full function definition is written **after main()**.