10.4 User defined functions

Syntax: Return type Function_name(parameter list)

```
{
Body of the function
}
```

1) Return type-: It is the data type of the value returned by the function to the called function;
2) Function name: A name given by the user.

Different types of User defined functions.

1) A function with arguments and return type.
2) A function with arguments and no return type.
3) A function with no arguments and with return type.
4) A function with no arguments and no return type.

10.4.2 Prototype of functions

Consider the following codes

Method 1

```
#include<iostream>
using namespace std;
int sum(int n1,int n2)
{
return(n1+n2);
}
int main()
{
int n1,n2;
cout<<"Enter 2 numbers :";
cin>>n1>>n2;
cout<<"The sum is "<<sum(n1,n2);
}
```

Method 2

```
#include<iostream>
using namespace std;
int main()
{
int n1,n2;
cout<<"Enter 2 numbers :";
cin>>n1>>n2;
cout<<"The sum is "<<sum(n1,n2);
}
int sum(int n1,int n2)
{
return(n1+n2);
}
```

In method 1 the function is defined before the main function. So there is no error.

In method 2 the function is defined after the main function and there is an error called "function sum should have a prototype". This is because of the function is defined after the main function. To resolve this a prototype should be declared inside the main function as follows.

Method 2

```
#include<iostream>
using namespace std;
int main()
{
int n1,n2;
int sum(int,int);
cout<<"Enter 2 numbers :";
cin>>n1>>n2;
cout<<"The sum is "<<sum(n1,n2);
}
int sum(int n1,int n2)
{
return(n1+n2);
}
```