C++ Functions

The function in C++ language is also known as procedure or subroutine in other programming languages.

To perform any task, we can create function. A function can be called many times. It provides modularity and code reusability.

Advantage of functions in C

There are many advantages of functions.

1) Code Reusability

By creating functions in C++, you can call it many times. So we don't need to write the same code again and again.

2) Code optimization

It makes the code optimized, we don't need to write much code.

Suppose, you have to check 3 numbers (531, 883 and 781) whether it is prime number or not. Without using function, you need to write the prime number logic 3 times. So, there is repetition of code.

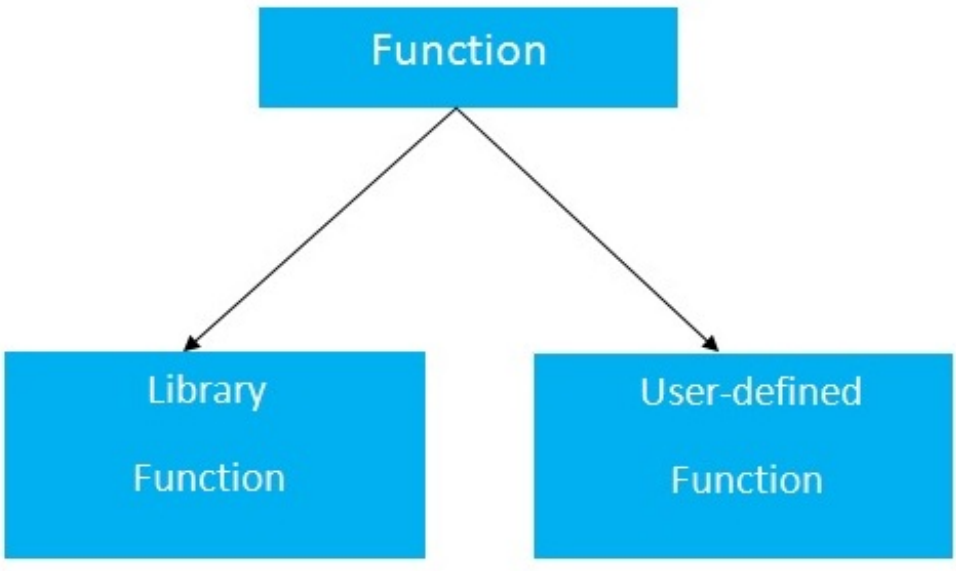
But if you use functions, you need to write the logic only once and you can reuse it several times.

Types of Functions

There are two types of functions in C programming:

1. Library Functions: are the functions which are declared in the C++ header files such as ceil(x), cos(x), exp(x), etc.

2. User-defined functions: are the functions which are created by the C++ programmer, so that he/she can use it many times. It reduces complexity of a big program and optimizes the code.



Declaration of a function

The syntax of creating function in C++ language is given below:

```
1. return_type function_name(data_type parameter...)
2. {
3. }
```

C++ Function Example

Let's see the simple example of C++ function.

```
1. #include
2. using namespace std;
3. void func() {
4.    static int i=0;
5.    int j=0;
6.    i++;
7.    j++;
8.    cout<<"i=" << i<<" and j=" <
9. }
10. int main()
11. {
12.  func();
13.  func();
14.  func();
15. }
```

Output:

```
i= 1 and j= 1
i= 2 and j= 1
i= 3 and j= 1
```