C++ Notes – 28092020

User defined functions –

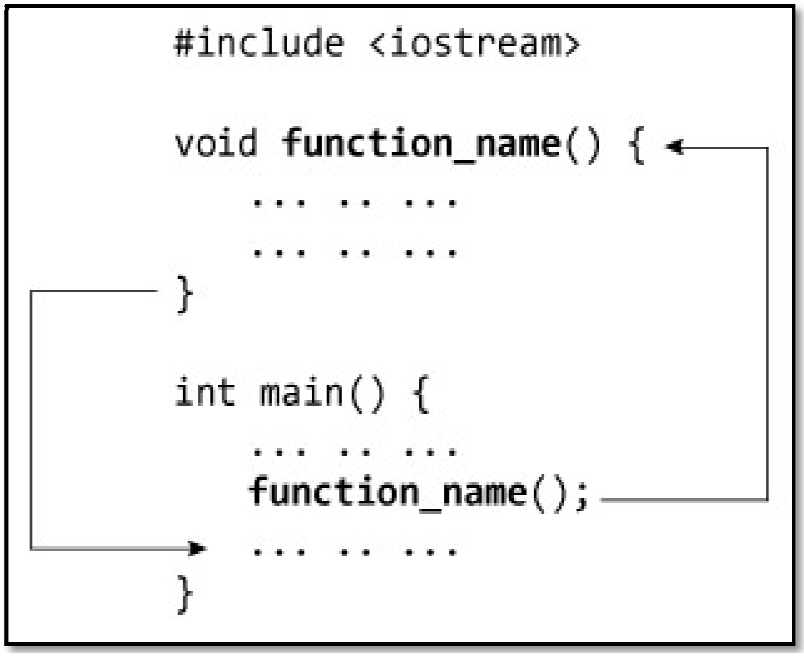
- In programming, function refers to a segment that groups code to perform a specific task. Depending on whether a function is predefined or created by programmer; there are two types of function:
    1. Library Function
    2. User-defined Function
- Library Function – Library functions are the built-in function in C++ programming. Programmer can use library function by invoking function directly; they don't need to write it themselves.
- User defined Function - C++ allows programmer to define their own function. A user-defined function group's code to perform a specific task and that group of code is given a name (identifier). When the function is invoked from any part of program, it all executes the codes defined in the body of function.

Example 1: Library Function -

```
#include<iostream.h>
#include<cmath.h>
void main()
{
   double number, squareRoot;
   cout << "Enter a number: ";
   cin >> number;

   squareRoot = sqrt(number);
   cout << "Square root of " << number << " = " << squareRoot;
}
```

How user-defined function works in C Programming?



```
/* User Defined Function - Traditional Format */
#include<iostream.h>
#include<conio.h>

// Function Declaration
void add();

void main()
{
        // Function Call
        add();
}

// Function Body
void add()
{
        int a=10,b=20;
        cout<<"Sum is: "<<(a+b);
}

/* User Defined Format - New Format */
#include<iostream.h>
#include<conio.h>

// Function Body
void add()
{
        int a=10,b=20;
        cout<<"Sum is: "<<(a+b);
}

void main()
{
        // Function Call
        add();
}
```

Different types of user defined functions -

- ❑ **Without return type, without parameters**
- ❑ **Without return type, with parameters**
- ❑ **With return type, without parameters**
- ❑ **With return type, with parameters**

/* Without Return Type, with out parameters - Traditional Format*/

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

// Function Declaration
void add();

void main()
{
        // Function Call
        add();
}

// Function Body
void add()
{
        int a=10,b=20;
        cout<<"Sum is: "<<(a+b);
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/* Without return type, without parameter - New Format */

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

// Function Body
void add()
{
        int a=10,b=20;
        cout<<"Sum is: "<<(a+b);
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void main()
{
        // Function Call
        add();
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