### Basics of C++

In this section we will cover the basics of C++, it will include the syntax, variable, operators, loop types, pointers, references and information about other requirements of a C++ program. You will come across lot of terms that you have already studied in C language.

### Syntax and Structure of C++ program

Here we will discuss one simple and basic C++ program to print "Hello this is C++" and its structure in parts with details and uses.

#### First C++ program

include <iostream>

using namespace std;

int main()

{

cout << "Hello this is C++";

}

**Header files** are included at the beginning just like in C program. Here iostream is a header file which provides us with input & output streams. Header files contained predeclared function libraries, which can be used by users for their ease.

**Using namespace std**, tells the compiler to use standard namespace. Namespace collects identifiers used for class, object and variables. NameSpace can be used by two ways in a program, either by the use ofusing statement at the beginning, like we did in above mentioned program or by using name of namespace as prefix before the identifier with scope resolution (::) operator.

*Example :* std::cout << "A";

**main()**, is the function which holds the executing part of program its return type is int.

**cout <<**, is used to print anything on screen, same as printf in C language. **cin** and **cout** are same asscanf and printf, only difference is that you do not need to mention format specifiers like, %d for int etc, in cout & cin.

#### Comments

For single line comments, use **//** before mentioning comment, like

cout<<"single line"; // This is single line comment

For multiple line comment, enclose the comment between **/\*** and **\*/**

/\*this is

a multiple line

comment \*/

#### Using Classes

Classes name must start with capital letter, and they contain data variables and member functions. This is a mere introduction to classes, we will discuss classes in detail throughout the C++ tutorial.

class Abc

{

int i; //data variable

void display() //Member Function

{

cout<<"Inside Member Function";

}

}; // Class ends here

int main()

{

Abc obj; // Creatig Abc class's object

obj.display(); //Calling member function using class object

}

This is how class is defined, its object is created and the member functions are used.

Variables can be declared anywhere in the entire program, but must be declared, before they are used. Hence, we don't need to declare variable at the start of the program.