Hello World

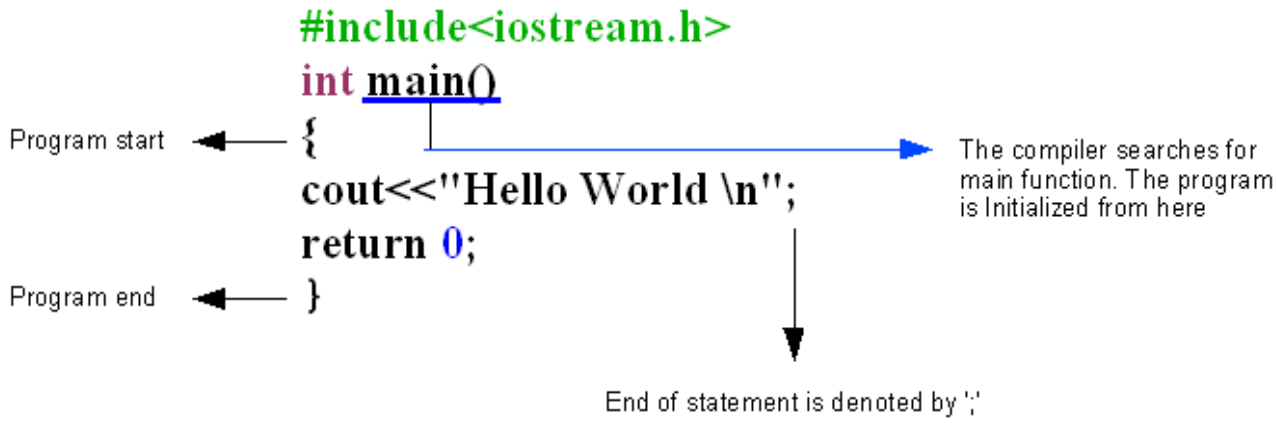
hello_world.cpp or hello_world.c is a very simple C++ program that prints Hello World on the screen.

Though its small it holds many important concepts of C++.

Consider the program source :

```
#include<iostream.h>
int main()
{
cout<<"Hello World \n";
return 0;
}
```

Lets analyze the program :



In the above program the first line is ***#include<iostream.h>*** now don't bother about the first line if you are a beginner. The Compiler searches your computer to find the file name ***iostream.h*** and pastes it before main.

The int stands for integer An integer is any number that has a value like -infinity ,..... ,-2,-1, 0,1, 2, 3..... infinity. In this program a integer type is returned out. Thats what the int stands for.

The *{* symbolizes that the program begins here or program start and *}* symbolizes program end.

The line ***cout<<"Hello World \n";*** prints the value Hello World out to the screen.

One might wonder what the ***\n*** stands for. It stands for print a newline. For example if you want to print ***"Hello" World***, you will replace line four by ***cout<<"\"Hello\" World\n";***. In this case ***\"*** tells the computer to put **"** on the screen . The \ is the escape sequence-used to escape out of normal printing procedures.

The ***cout*** should be spelled as c-out and not cout. << is called the insertion operator. Togeather ***cout<<*** does the following, it inserts the string ***"Hello World \n"*** to standard output, in this case the monitor before you.

The semicolon **;** is used to tell that the statement is terminated. We can get the same output by rephrasing program as follows:

#include<iostream.h>

```
int main()
{
cout<<"Hello World \n"; return 0;
}
```

Or as follows

```
#include<iostream.h>
int main()
{
cout<<  "Hello World \n"   ;
return 0;
}
```

In the above program line 4 is rephrased as follows ***cout<< "Hello World \n" ;*** , you may notice some white spaces. What will happen now, we get the same result. If you have guessed it right, the C++ compiler avoids white spaces.

Coming back to line 1 ***#include<iostream.h>*** , what starts with a # is called a preprocessor directive. It means these lines are processed before hand (pre – processed) , and its after that compilation takes place.

#include<file name>*i* tells to include the file having file name.

iostream stands for input / output stream. Its this file ***iostream.h*** says that when you encounter ***cout<<*** , then put the content right of **<<** to the monitor.

The extension ***.h*** says that its a header file. Theoretically files with any extension can be included.

Exercise:

1. Write a program to print your name on the screen.
2. Drop the first line ***#include<file name>*** and compile the program
3. Substitute \t ,\b,\a,\r,\f in above examples between Hello and World. What do you infer?