



A C++ program is a collection of one or more functions.

There must be a function called `main ()`. Execution always begins with the first statement in function `main ()`.

Any other functions in your program are subprograms and are not executed until they are called.

<code>// Hello World C++ program</code>	→	Comment
<code>// from Eclipse IDE</code>	→	Comment
<code>#include <iostream></code>	→	preprocessor directive
<code>using namespace std;</code>	→	which namespace to use
<code>int main ()</code>	→	beginning of function named <code>main ()</code>
<code>{</code>	→	output statement
<code>cout << "Hello World!";</code>	→	string literal
<code>return 0;</code>	→	send 0 to operating system
<code>}</code>	→	end of block for <code>main</code>

When a line begins with a `#` it indicates it's a preprocessor directive.

The preprocessor reads your program before it is compiled and only executes lines beginning with `#`.

`#include` directive causes the preprocessor to include the contents of another file, AKA header file, in the program.

It's called header file because it should be included at the top of the program.

The enclosed brackets `<iostream>` is the name of the header file to be included. (The name is `iostream`, the brackets indicate that it's a standard C++ header file)

`iostream` file contains code that allows a C++ program to display output on the screen and read input from the keyboard.

We need to include this file because the `cout` statement prints output to the computer screen.

C++ uses `namespaces` to organize the names of program entities.

The statement `using namespace std;` declares that the program will be accessing entities whose names are part of the namespace called `std`.

A function can be thought of as a group of one or more programming statements that has a name.

The name of this function is `main`, and the set of parentheses that follows the name indicates that it's a function.

The word `int` stands for "integer". It indicates that the function sends an integer value back to the operating system when it is finished executing.

Every C++ program must have a function called `main`. It's the starting point of the program.

The function `main` is **ALWAYS** `int main ()`

C++ is a case-sensitive language. It regards uppercase letters as being entirely different characters than their lowercase counterparts.

All statements that make up a function are enclosed in a set of `{braces}`. Everything between 2 braces is the contents of the function `main`.

Phases, words, or sentences inside the quotation marks `" "` is called a string, string constant, or string literal.

`cout` is the only line in the program that causes anything to be printed on the screen.

A `semicolon` is required to mark the end of a complete statement.

`return 0` sends the integer value 0 back to the operating system when the program finishes running. The value 0 usually indicates that a program executed successfully.

This statement is always necessary in the main function.

Special Characters

<code>//</code>	→	Beginning of a comment
<code>#</code>	→	Beginning of preprocessor
<code><></code>	→	Encloses file name in <code>#include</code>
<code>()</code>	→	Used when naming a function
<code>{ }</code>	→	Encloses a group of statements
<code>" "</code>	→	Encloses string of characters
<code>;</code>	→	End of a programming statement

