



First C++ Program – Printing Text

C++ uses notations that may appear strange to nonprogrammers. We now consider a simple program that prints a line of text.

```
1  //  
2  // PrintingText.cpp  
3  // TutorialClass  
4  //  
5  // Created by Ekaba Ononse Bisong on 5/8/15.  
6  // Copyright (c) 2015 Ekaba Ononse Bisong. All rights reserved.  
7  //  
8  
9  #include <iostream> // allows program to output data to the screen  
10  
11 // function main begins program execution  
12 int main()  
13 {  
14     std::cout << "Welcome to C++!\n"; // display message  
15  
16     return 0; // indicate that program ended successfully  
17 } // end function main
```

Welcome to C++!

Comments

Lines 1 to 7 each begin with `//`, indicating that the remainder of each line is a comment. You insert comments to document your programs and to help other people read and understand them. Comments are ignored by the compiler.

#include Preprocessor Directive

Line 9 is a preprocessor directive, which is a message to the C++ preprocessor. Lines that begin with `#` are processed by the preprocessor before the program is compiled. This line notifies the preprocessor to include in the program the contents of the input/output stream header `<iostream>`.

Blank Lines and White Space

Line 10 is simply a blank line. You use blank lines, space characters and tab characters (i.e., “tabs”) to make programs easier to read. Together, these characters are known as white space.

The main Function

Line 12 is a part of every C++ program. The parentheses after `main` indicate that `main` is a program building block called a function. Exactly one function in every program must be named `main`.

An Output Statement

Line 14 instructs the computer to perform an action, namely, to print the string of characters contained between the double quotation marks.

The std Namespace

The `std::` before `cout` is required when we use names that we've brought into the program by the preprocessor directive `#include <iostream>`. The notation `std::cout` specifies that we are using a name, in this case `cout`, that belongs to "namespace" `std`.

The Stream Insertion Operator and Es'cape Sequences

The `<<` operator is referred to as the stream insertion operator. When this program executes, the value to the operator's right, the right operand, is inserted in the output stream.

The return Statement

Line 16 is one of several means we'll use to exit a function. When the return statement is used at the end of `main`, as shown here, the value `0` indicates that the program has terminated successfully.