Hello World!

This lesson acquaints you with the Hello World program and gives a basic introduction to C++

We'll cover the following

Hello World: Example

The first program that most aspiring programmers write is the classic **“Hello World”** program. The *purpose* of this program is to display the text **“Hello World!”** to the user.

The **“Hello World”** example is somewhat famous as it is often the first program presented when introducing a programming language.

Try running the code below!

```
#include <iostream>
using namespace std;

int main() {
    cout << "Hello World!" << endl;
    return 0;
}
```

NOTE: The `return 0;` as shown above, is not a necessary addition to the **‘hello world’** program. A return value of **0** in `main` simply signals to the

> operating system that everything went smoothly. By default, a C++ program will always return **0** if there is *no* return at the end of `main`.

C++ As Structural Language

Before discussing the particulars, it is useful to think of a computer program simultaneously in terms of both its *structure* and its *meaning*.

A C++ program is structured in a specific, particular manner. C++ is a language and therefore has a grammar similar to a spoken language like English. The grammar of computer languages is usually much, much simpler than spoken languages but comes with the disadvantage of having stricter rules. Applying this structure or grammar to the language is what allows the computer to understand the program and what it is supposed to do.

The overall program has a structure, but it is also important to understand the purpose of part of that structure. By analogy, a textbook can be split into sections, chapters, paragraphs, sentences, and words (the structure), but it is also necessary to understand the overall meaning of the words, the sentences, and chapters to fully understand the content of the textbook. You can think of this as the semantics of the program.

A line-by-line analysis of the program should give a better idea of both the structure and meaning of the classic **“Hello World”** program. Let’s take a look at it in the upcoming lessons.