

Week 01

Introduction to C++

Lab 01

In class we learned about basic syntax of a C++ program. For today's lab it's your turn to write your first program. Your first program will be a simple program that when run from the command line will produce the phrase "Hello World!". I expect your program to have the following:

- A descriptive header
- Include the **stdio.h** header
- Define the namespace
- Have a correct main function
- Make use of the printf function
- Don't forget the new line at the end of your printf function
- Make sure your main function returns the right value
- Comment where necessary
- Make sure your code compiles correctly and without issue

A descriptive header should look like the following:

```
// [Your Name]
// CPSC 120-[Your Section]
// [HW or Lab] [Lab Number]
// Bonus: [Yes or No] (Labs won't have this)
// [Description of program]
```

An example of this would be:

```
// David McLaren
// CPSC 120-15
// Lab 01
// Desc: Says hello world!
```

Input:
(None)

Expected Output:

Hello World!

Homework 01

Since you learned about writing your first program, it's time to make it a little bit more complicated. We're going to introduce variables into the mix. Now you're going to print out your name and your age. Your age will be store in a variable. Your program should have the following:

- A descriptive header
- Include the **stdio.h** header
- Define the namespace at the top, under the libraries (**using namespace std;**)
- Have a correct main function
- Make use of the printf function formatted to print the value of an age variable (name it whatever you'd like)
- Don't forget the new line at the end of your printf function
- Make sure your main function returns the right value
- Comment where necessary
- Make sure your code compiles correctly and without issue

Input:

(None)

Example Output (yours will be different):

Hi, I'm David. I am 27 years old

Bonus Objectives:

1) cout

printf() is great but what if we used C++'s **cout** instead? First we would need to swap out the **stdio.h** header with the **iostream** library like so:

```
#include <iostream>
```

An example of using **cout** would be:

```
cout << "Hello World" << endl;
```

We need the **endl** part to give us a new line. We could still print out **\n** if we wanted to though. Can we use **%d** still?

2) Variable for name (don't try until you do the first bonus objective)

What if we want to store our name in a variable? We did it with our age, but unlike our age which is a number, our name is a string of characters. C++ doesn't have the string variable type included by default. That means we're going to have to include the library for string with:

```
#include <string>
```

Then we can make a string variable, assign it our name like so:

```
string my_name = "David McLaren"
```

We can then add it to our output.