CS 3005: Programming in C++

Hello, world!

Introduction

You need to setup your development environment to complete work in this course. This assignment will require you to install the build tools for C++, an appropriate editor, `git`, and `make`. You will also be required to create a `GitHub` account, use it to join the `GitHub Classroom` for this course, and checkout your `GitHub` repository.

Assignment

Create a "Hello, world!" program in C++. This function's console output must be "Hello, world!" followed by a newline character. It must also have an exit status of `0` (zero).

Programming Requirements

Create `program-hello/hello.cpp`

Functions

- `int main();` Sends the message `Hello, world!` to the standard output stream; Returns value `0` (zero).

Create `program-hello/Makefile`

This file must contain rules such that any of the following commands will build the `hello` program:

- `make`
- `make all`
- `make hello`

Create `program-hello/.gitignore`

The file `program-hello/.gitignore` needs to store one line of text:

```
hello
```

This will prevent the executable program `hello` from being committed to the repository. It is a *derived file*.

Create `Makefile`

Create a project-level Makefile so that running `make` or `make all` (`all` should be the default target) in the project directory will call `make` in the `program-hello` directory. The command to call a different Makefile within `make` is `make -C {NEW_DIRECTORY} {TARGET}`. Since you will create your `program-hello` Makefile to build the program as the default target, we do not need to specify a target here. Thus your command in your project-level Makefile can be `make -C program-hello`. This should be called under the default `all` target.

Additional Documentation

- [Tutorial for Make](#)

Grading Instructions

To receive credit for this assignment:

- your code must be pushed to your repository for this class on GitHub
- all acceptance tests must pass
- all programs must build, run, and execute as described in the assignment descriptions.

Extra Challenges (Not Required)

- Create an additional program `cs3005` that displays the message "Hello, CS 3005!".

- Create an additional program `roses` that displays the words to "Ring around the rosie".
- Make your program write `Hello, world!` in green. Test this against the unit tests. Does it still pass? Why or why not?
  - [List of Ansi color escape sequences](#)
  - Type `man reset` to learn about the `reset` command to reset your terminal if it has gotten into a bad state from control codes.