CS415 Project 1

Kyle Aure

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Project Description

Introduction project to C++ for CS415: Principles of Programming Languages

Project Details

- **Course** - CS415: Principles of Programming Languages
- **Instructor** - Daniel Nash
- **Date** - 2018/09/02

Project Goals

- Install C++ IDE
- Get program to run
- Documentation explaining issues, learning outcomes, and screenshot showing program output.
- Add name to comment and submit the code to D2l

Running project

Create a local copy of this project by running the following command:

```
git clone git@github.com:KyleAure/WSURochester.git
```

Then navigate to this project directory:

```
cd WSURochester/CS415/Project1
```

Then run the following goals to build and run this program:

```
g++ Project1/src/app.cpp -o Project1/src/app
./Project1/src/app
```

Documentation

Issues

This project was pretty straightforward. Deciding which IDE to use took the longest. In the end, I choose to use Eclipse for C/C++ since I was familiar with the platform from java development.

Setting up the project was difficult since Eclipse can be so fine tuned and being unfamiliar with the language meant that I did not know what many of the settings meant.

Once the project was set up running it within Eclipse was as simple as building and running. I wanted to learn how to build and run the program using terminal and this was a bit more complicated, but I was successful in finding a guide.

Learning Outcomes

- I learned how to use Eclipse for C/C++
- I learned how to build and run C++ programs both via the Eclipse IDE and also via command line
- When writing functions passing variables by `value` does not affect the variables in the mainline code.
- When writing functions you can pass variables by `reference` using the `&` symbol. This will pass the variable `reference` and you are able to edit the mainline variable inside a function.
- Alternatively, you can can pass variables by `address` using the `*` symbol. This will pass the variable's `address` and you are also able to edit the mainline variable inside a function.
- I am unsure when it would be better to reference a variable by `address` vs `reference`.

Output