Lab 1

On Cloud9, create a folder named "lab1" in your cse201 workspace. Store all your work for lab 1 in that folder.

Excercise 1

This is a hello world program.

Listing 1: hello.cpp

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

int main()
{
    cout << "hello, world"s << endl;
}
```

Compile and run this program using these bash commands:

```
g++-5 -std=c++14 -o hello hello.cpp
./hello
```

Excercise 2

This program calculates the area of a rectangle:

Listing 2: area.cpp

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

int main()
{
    double width, length, area;

    cout << "Enter the length: "s;
    cin >> length;
    cout << "Enter the width: "s;
    cin >> width;
    area = length * width;
    cout << "The area is: "s << area << endl;
}
```

Rename this source file to volume.cpp and modify it to calculate the volume after the user inputs 3 side lengths.

Excercise 3

This program displays a greeting after asking for your name:

Listing 3: name.cpp

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

int main()
{
    string first_name;

    cout << "What is your first name? "s;
    cin >> first_name;
    cout << "Hello, "s << firstname << endl;
}
```

Modify this program to make it ask for the user's first name and last name. Then make it display "Hello, " followed by their first and last name.

Excercise 4

We will create a command macro that will make it easier for you to compile C++ programs.

In your cse201 workspace, click the gear icon in the top-left corner. Make sure "Show Home in Favorites" and "Show Hidden Files" are checked.

Now in the file tree in the left panel, click the "∼" folder, open the ".bashrc" file.

Insert this code at the end of the file:

```
compile()
{
    program=$1;
    shift;
    g++-5 -std=c++14 -o $program $@;
}
```

Save and close the .bashrc file. Congratulations, now you can compile the programs like this:

```
compile hello hello.cpp
compile volume area.cpp
compile name name.cpp
```

With our new compile command, the first argument is the name of the program you want to generate and the second argument is the name of your source file.