

Lab 1: Simple example of using C++ class and functions

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▼ Details

In this lab, we will use the notions of classes and write a simple C++ program converting between Celsius and Fahrenheit.

Please find the files, `main.cpp`, `temperature.cpp`, and `temperature.h` files in the [Lab 1](https://osu.instructure.com/courses/160885/files/folder/labs/Lab%201) (<https://osu.instructure.com/courses/160885/files/folder/labs/Lab%201>) folder in the Files.


In the given `temperature.cpp`, there are two unfinished functions `celsius2fahrenheit` and `fahrenheit2celsius`. These two functions are declared in the header file, `temperature.h`, and they are member functions of the class `Temperature`. `celsius2fahrenheit` should take an argument which is a double value representing a degree in Celsius and return a double value representing a degree in Fahrenheit. `fahrenheit2celsius` should take an argument which is a double value representing a degree in Fahrenheit and return a double value representing a degree in Celsius. The goal of this lab is to finish these two functions and other parts in the given code.

First, you may compile the code using the following commands.

```
g++ temperature.cpp main.cpp -o temperature
```

However, the compilation will fail due to some errors in file `temperature.cpp` and `main.cpp`. Please first try to fix the errors in the `temperature.cpp` and `main.cpp` to make the compilation success. Your fix should not change the header file `temperature.h`. After the compilation is fixed, please finish the `celsius2fahrenheit` and `fahrenheit2celsius` functions in file `temperature.cpp` to make the conversion between Celsius and Fahrenheit work correctly. Your implementation of conversion between Celsius and Fahrenheit should not be in the file `main.cpp`.

After you have finished you may try the above compilation command and run the executable `temperature` to check the implementation.

Please submit your finished `main.cpp`, `temperature.cpp`, and `temperature.h` to [Lab 1](https://www.gradescope.com/courses/697394/assignments/3972461)  (<https://www.gradescope.com/courses/697394/assignments/3972461>) on Gradescope. Details of submission can be found in previous [Lab 0](https://osu.instructure.com/courses/160885/assignments/3880864) (<https://osu.instructure.com/courses/160885/assignments/3880864>). The autograder will work once the files are uploaded. You may submit multiple times before the due date to check if the

implementation is correct based on the autograder. Please email me if you find some issues in this lab or the autograder.