

Programming Assignment 1: Fix the Code

Due: Jan 29, 2016

1 Setting up the Programming Environment

Read the individual problem directions carefully before starting. Do your own work. To set up the environment, from the UNIX terminal:

1. Type `mkdir hw1` This will create a new directory (folder) named `hw1`. Work out of this directory. In order to do that,
2. Type `cd hw1`. This changes the current working directory to the directory `hw1`.
3. Copy the files

```
average.cpp
cos.cpp
averageNoError.exe
cosNoError.exe
```

from the directory `/class/cse1222/9643/hw1` by typing

```
cp /class/cse1222/9643/hw1/* .
```

This command copies all files in `/class/cse1222/9643/hw1` into your current directory. Be sure to include the asterisk, “*”, and the period, “.”.

Type `ls` to be sure you copied the files correctly. All four files should be listed in your current directory.

4. Type `emacs average.cpp &`, and begin working. Note that if you want to work on this file at a later time, you only have to do steps 2 and 4.

2 Work by Yourself

All lab and programming assignments are to be done by yourself. You may discuss labs or assignments with other students in the class but DO NOT LOOK AT ANYONE’S CODE OTHER THAN YOUR OWN. Needless to say, you should not share or copy anyone else’s code.

3 Correcting the programs

Programs `average.cpp` and `cos.cpp` have both syntax and logical errors. The assignment is to correct these errors so that the programs perform as specified. Do not delete any comments from the code. (You may have to modify the code so that the comments are properly recognized as comments.) Change the code as little as possible. Don't "rewrite" the code. Just fix the errors.

Once you have corrected all the errors, your code should produce the exact same output as the programs `averageNoError.exe` and `cosNoError.exe`.

1. Fix all the syntax errors in `average.cpp` so that it compiles without errors.
2. Fix all the logical errors in `average.cpp` so that it computes the average of 3, 5, 8, the average of 4, 6, 13, the average of 7, 9, 13, 14, and outputs the averages on three separate lines.
3. Replace `?????` in the line "Modified by" in file `average.cpp` with your name.
4. Replace `?????` in the line "Modified on" in file `average.cpp` with the current date.
5. Fix all the syntax errors in `cos.cpp` so that it compiles without errors.
6. Fix all the logical errors in `cos.cpp` so that it reads in a variable x and computes $\cos(x)$, $\cos(x) + \cos(x)*\cos(x)$, $\text{sqrt}(1 + \cos(x))$ and outputs the solutions on separate lines. The function `sqrt(x)` computes the square root of x .
7. Replace `?????` in the line "Modified by" in file `cos.cpp` with your name.
8. Replace `?????` in the line "Modified on" in file `cos.cpp` with the current date.

4 Program Submission

Submit your corrected versions of `average.cpp` and `cos.cpp` using the dropbox on Carmen under the "Assignments" tab.