

CSCI 136 Section 05 – Fall 2014

Lab Assignment #2

This week's assignment will have you write a program that introduces you to floating-point number output, constants, boolean expressions and conditional flow. Feel free to work in pairs and ask for help early.

Using the Terminal command line, create a folder (using the `mkdir` command) called `lab02` and `cd` into that folder. I have added an example of what should happen when the program is run to the end of this document. Your source code file must have a preamble at the top (see the programming rules and guidelines document in Blackboard for more on the preamble).

Problem: Workers at a particular company were awarded a pay increase, *retroactive* for six months. The amount of the increase for each employee depends on their prior annual salary. For those making 25000.00 or less, the increase is 8.2%. For those making more than 25000.00, but less than 30000.00, the increase for the retroactive period is 5.4% and the increase for future salary is 4.9%. If the prior salary is 30000.00 or more, up to 40000.00, the increase is 3.3%. Above 40000.00, there is no increase.

Write a program (`lab02.cpp`) that takes an employee's previous annual salary as input and outputs the amount of retroactive pay due the employee, the new annual salary, and the new monthly salary.

Use four global constant variable declarations to hold the four different rate increase values which you must use in your code. Output for monetary values should include two decimal places (see the magic formula from the book).

Submitting your work

Make sure you are in your `lab02` folder (use the `pwd` command) with your source code file (use the `ls` command) and then run the following to create a zip archive of them:

```
$ mkdir lastname_firstname_lab02
$ cp lab02.cpp lastname_firstname_lab02/lab02.cpp
$ zip -r lastname_firstname_lab02.zip lastname_firstname_lab02/
```

You'll need to change `lastname` and `firstname` to your actual last and first names in the steps above. Once you have your zipfile, you can use that file as your submission for the assignment in Blackboard.

If you are working in pairs, then you should have both of your names included as comments in the source code file's preamble (see the programming rules and guidelines document in Blackboard for more on the preamble). Also, write both your names to the notes section in the submission form when submitting to Blackboard.

Sample output

```
$ ./lab02
Enter your current annual salary (e.g. 50000.00): 24000.00
Your retroactive pay is $984.00
Your annual salary is now $25968.00
Your monthly salary is now $2164.00
```

```
$ ./lab02
Enter your current annual salary (e.g. 50000.00): 28000.00
Your retroactive pay is $756.00
Your annual salary is now $29372.00
Your monthly salary is now $2447.67
```

```
$ ./lab02
Enter your current annual salary (e.g. 50000.00): 35000.00
Your retroactive pay is $577.50
Your annual salary is now $36155.00
Your monthly salary is now $3012.92
```

```
$ ./lab02
Enter your current annual salary (e.g. 50000.00): 45000.00
Your retroactive pay is $0.00
Your annual salary is now $45000.00
Your monthly salary is now $3750.00
```