Classwork 3: Pseudocode Practice

In-class Date: Thursday 08 February
Due Date: Wednesday 14 February

Objectives

To become familiar with writing pseudocode to solve problems.

NOTE: Unless otherwise noted, be sure to hit Enter (PC)or return (Mac) after every command!! At the end of the lab, you will use submit to turn in a transcript of your Linux session.

Assignment: Solve with Pseudocode

1. Login to the UMBC Linux GL System
2. Use the nano Text Editor to Create a Pseudocode File. You will be using the `nano` text editor to create a file called "pseudocode.txt". To create your pseudocode file, do the following.
   - Go to your classwork 3 directory by typing: `cd cs104/cw3`
   - Enter the nano editor by typing: nano pseudocode.txt
   - Simply type in the pseudocode to solve the 2 problems specified below (Drawing a Rectangle AND Tip Calculator). Put 10 blank lines between each set of pseudocode to separate the solutions. Edit any mistakes using the Backspace or Delete key to backspace like you would in a normal word processor like Microsoft Word. When you get to the end of a line, hit the enter (PC) or return (Mac) key at a reasonable spot instead of letting the text wrap around to the next line. Remember that `nano` is simply a text editor and does not format things nicely for us.
   - Save your work as you go by pressing ctrl-o for "write out."
   - To exit nano press ctrl-x. If you have made changes since you last saved, it will ask you if you want to save the file, so press y for yes, then enter(PC) or return(Mac) when prompted to save the filename. It is highly advisable NOT to change the filename.
   - You will know that you have exited nano and are again talking to the Linux system if you see the `[arsenaul@linux1 ~]$` prompt.
   - You can check that the file pseudocode.txt is in your directory by typing: `ls`
   - The file will contain 2 different blocks of pseudocode, separated by 10 blank lines, to solve the following 2 problems:
     - Drawing a Rectangle: Write an interactive program that will draw a solid rectangle of asterisks (*) of user-specified dimensions (i.e. the user will tell you the height and width of the rectangle when you ask). The program must also display the dimensions of the rectangle after drawing it. Error checking must be done to be sure that the dimensions are greater than zero.

- Tip Calculator: Write an interactive program to calculate a table of dollar amounts of tip on a restaurant bill. You should allow for changes in the total price of the bill. You should also ask the user for the range of tipping rates to calculate (i.e. low and high ends). Error checking should be done to be sure that the amount of the bill is greater than 0.
- NOTE: Be sure to put 10 blank lines between each block of pseudocode to keep them separate!

3. Submit your file to the GL system

```
[arsenaul@linux1 cw3]$ submit cmsc104_arsenaul cw3 pseudocode.txt
```

4. Check your submission

```
[arsenaul@linux1 cw3]$ submitls cmsc104_arsenaul cw3
```

5. Logout

```
[arsenaul@linux1 cw3]$ exit
```

Grading Rubric

- rectangle drawing pseudocode has proper syntax: 20 points
- rectangle drawing pseudocode has proper logic: 20 points
- tip calculator pseudocode has proper syntax: 20 points
- tip calculator pseudocode has proper logic: 20 points
- pseudocode text is clearly separated between solutions: 10 points

What to Submit

You should have already submitted the necessary file ("pseudocode.txt") by following the instructions above.