Math

Objectives

- More Linux commands
- Write a program calculating math functions
- Write a program that reads in input from the user

Lab 2

Part 1 Linux Commands

Lesson: Creating Directories from the Command Line

Directories may be created using either the File Browser, or by creating them on the command line. Creating directories on the command line is rather simple. First, open a terminal, and cd to your Dropbox folder

```
$ cd ~/Dropbox
```

Remember, "~" is a shortcut to your home folder, and by default, Dropbox is stored in this location. If you installed Dropbox in a different location, you'll need to change the above path.

To create a new directory, use the command *mkdir*

```
$ mkdir my_dir
```

Spaces are troublesome on the command line, so we'll use underscore. If you open up Dropbox in the File Browser, you should be able to see the *my_dir* folder. Or, you can just use *ls*.

```
$ ls
Getting Started.pdf  hello.py   my_dir
```

And, you can go ahead and cd to the new directory you created

```
$ cd my_dir
```

Lesson: Copying Files

Up until now, we've simply been navigating the directory structure in the terminal. Let's look doing some more productive things. First, open Geany and create a real simple python program.

```
print("I am a test")
```

Save this file as *test1.py* in the *~/Dropbox/my_dir* folder. If you type *ls* in the terminal, you should now see this file listed. If you aren't in the correct folder, cd to it.

```
$ ls
test1.py
```

And you can run this program

```
$ python3 test1.py
I am a test
```

How about making a copy of this file? To do this, we use the *cp* command (short for copy). To copy this file, use the following command

```
$ cp test1.py test2.py
```

Now if you type ls, you should see two files

```
$ ls
test1.py  test2.py
```

And you can run this new program just like the other, since it's an exact copy of the original.

```
$ python3 test2.py
I am a test
```

Lesson: Zipping Files

The easiest way to zip files together is to go to the directory structure, select the files you want zipped together, right-click and select "compress".
You will need to do this for your assignments.

Part 2 Math Program

For this lab, you are going to write a program that calculates the final price of a product. Start with the following program structure in a file named `Lab2.py`:

```
# Lab 2 Calculations
# Author: E.S.Boese
# Date: Fall 2014

SALES_TAX = .0735
num_items = 2
cost_per_item = 7.59
```

You need to add a variable for the price (name the variable `price`) that multiples the number of items purchased times the cost per item and add the sales tax. Then you need to display the output such that it correctly displays only 2 decimal points. *(Hint: You can print formatted using*

```
"The price is $%.2f" % price
```

The final output should look like this:

```
The price is $16.30
```

Once you are done, add comments to the top of your program with your name, date, and one sentence describing this program.

To get credit for this lab exercise, submit your code to Moodle as a zip file named Firstname_Lastname_Lab2.zip **and show the TA your code and run your program.**

Once you are finished with your labs for this week's recitation, you can work on your assignments. You cannot leave early - recitation attendance is taken. If you finish your assignments, start doing some exercises in the back of the chapters of the book.