

CMPS 150 – Lab 10 – March 29, 2017

The following is an exercise in working with Python repetition statements (as well as decisions, loops and functions). When done, be sure your Python source code runs properly and upload your completed lab to your TA on Moodle. This exercise will be available online on Moodle if you wish to use it again.

Log in to CMPS Lab

1. Copy the lab files for today from the Moodle site.
2. At the Linux desktop, open a terminal window (i.e., command line window)

Do this by right-clicking on the desktop and selecting "Open Terminal" from the menu.

3. Launch IDLE.

`idle3.5`

Or, on the MacMini, select "Go" from the menu bar, then "Applications"
Find the Python 3.5 applications, double-click on it, and select "IDLE"

4. Edit the first two lines of the code to have **YOUR** name/clid/section.

```
# Author:      Your-Name
# CLID/Section: Your-CLID & section-number go here
```

5. Use a sentinel-controlled loop to process through a file of data.

Write a program using a sentinel-controlled loop to process through the file of bank transactions.

Before processing the file, ask the user for the beginning balance in the bank account.

Each processing step of the file will process two(2) lines of the file. The first will be a transaction type (single letter, either 'W', 'D' or 'B') for withdrawal, deposit or balance inquiry. If it is a withdrawal or deposit transaction type, the next line will be a transaction amount. If it is a balance inquiry, the next line will contain a zero.

As you process through each transaction/amount, print the transaction to the screen along with the new balance.

NOTE: Be sure to not allow a withdrawal if the amount is more than the current balance.

ANOTHER NOTE: Sentinel value will be a transaction type of 'X' (uppercase)

Here is a sample transaction (input) file.

```
W
48.75
W
20.00
B
0
D
125.00
W
550.00
B
0
W
72.80
X
0
```

At a minimum, write a function to process deposits. It should be a value returning function. It will be passed the amount to be deposited and will return the new balance.

Recommendation:

Write a function for withdrawal
Write a function for balance inquiry

6. When you have edited and reviewed the code, save the file, and run your code.

7. Debug your code (perhaps you can skip this step).

If you have any errors in your code, the interpreter will produce an error, with a line number, where it detects there is a problem with your code. Return to the editor and correct the error. Run it through the interpreter again (step 6) until it runs with no errors.

8. Sample Run

Enter beginning balance: **200.00**

The bold, underline indicates input by the user.
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Withdrawal	48.75	151.25
Withdrawal	20.00	131.25
Balance		131.25
Deposit	125.00	256.25
Withdrawal	550.00	<denied>
Balance		256.25
Withdrawal	72.80	183.45

Thanks ... Goodbye !!!

9. *Exit Python*

Close the Python IDLE editor by clicking the X in the upper right corner (or selecting File/Exit from the menus).
Close the Python IDLE shell by clicking the X in the upper right corner (or typing Ctrl-D).

10. *Exit Terminal*

Close the terminal window by clicking the X in the upper right corner (or typing Ctrl-D).

11. *Upload to Moodle*

Get in a browser (the globe icon on the toolbar at the top) and login to Moodle.

Instead of going to the Lecture Section , go to YOUR specific Upload section on the Moodle site.

Here you will see the lab for today. Click on the link for Lab #10.

Click to “Upload a File”

Select to “Choose a File” and go about the process of browsing/finding “lab10.py” on the computer

Select to “Upload this File”

When returned to the Upload screen, MAKE SURE to click on the “Save Changes” button.

You will be returned to the “Lab #10” screen. This time you should see your source code file listed on it.

12. *Logout of Moodle*

13. *Logout of Linux*

Logout is found on the System (toolbar at the top) menu.