



## Programming Exercise #4a: Making Decisions with If & Else

1. Open a new file in TextWrangler and save it as **Ex4\_IfElse.py** in your folder on the Desktop. Then directly type up this script into that file.

**NOTE:** This program is very similar to the one you created for Exercise 3. To save you some time, make a copy of that file (saving it with the name above) and just make changes as necessary.

```
1  """
2  Banking with Choices
3  Created by:
4  Date Created:
5  Last Modified:
6  """
7
8  #Get the time library
9  import time
10
11  opening_Balance1 = 10000.00
12  opening_Balance2 = 0
13
14  print "Hello! And welcome to Chase Bank! What is your first name?"
15  print "> ",
16
17  first_Name = raw_input()
18
19  print "Pleasure to meet you %s." % (first_Name)
20
21  account_number = raw_input("Now, what is your account number? 1 or 2?\n> ")
22
23  print "Okay, let me pull up the information for account", account_number, ", one moment please."
24
25  time.sleep(3)
26
```

2. Execute the program. (To do this, open Terminal and get into the folder where the program is saved.) You can do this by typing "python Ex4\_IfElse.py" into the terminal. Trouble shoot any errors that arise.
3. Now add the following lines of code to your file. Save it again, and re-run the program. If you encounter an error message, fix the issue and run the program again.

```
27  account_number = int(account_number)
28
29  if (account_number == 1):
30      account_Balance = opening_Balance1
31
32  elif (account_number == 2):
33      account_Balance = opening_Balance2
34
35  else:
36      exit("Sorry, that is not a valid account. Please come back another time.")
37
38  print "It looks like there is $%d currently in this account." % (account_Balance)
39
```



4. Run the program three times, each time choosing a different account number and see how the outcome changes.

**5. REFLECT:**

- a. Identify four different variables used in this program (just write out their names).
  - b. What is happening in Line 27? Explain.
  - c. What is happening in Lines 29 – 36? Explain in detail.
  - d. In line 36, notice the **exit** function. What does this function do? (Google it to confirm your thoughts.)
6. Now add the following lines of code to your file. Save it again, and re-run the program. If you encounter an error message, fix the issue and run the program again.

```
40 print "How much money would you like to deposit today?"
41
42 deposit = raw_input("> ")
43
44 deposit = float(deposit)
45
46 ▼ if (deposit >= 10000):
47   └ print "Woah buddy! That's a lot of mulah!"
48
49 ▼ if (deposit < 20):
50   └ print "Tough times, huh?"
51
52 time.sleep(1)
53
54 print "Alright, so you would like to deposit $%.2f. One moment please." % deposit
55
56 time.sleep(3)
57
58 new_Balance = account_Balance + deposit
59
60 print "So your new balance is $%.2f. Thank you and have a great day!" % new_Balance
61
```



**7. REFLECT:**

- a. What is happening in Line 44? Explain.
  
- b. What is happening in Lines 46 – 50? Explain in detail.
  
- c. What is happening in Line 58? Explain.
  
- d. In Line 60, in the quotations, what does the **%.2f** mean/do?

**8. TROUBLE-SHOOTING WITH PYTHON:**

- a. Go back to your file in TextWrangler. Go to Line 29 and delete the colon at the end of the line. Save the program and run it again. What error message do you get & why do you get it?
  
- b. Go back to the file and fix Line 29. Now in Line 29 delete one of the equal signs. Save the program and rerun it. What error message do you get and why?
  
- c. Go back to the file and fix Line 29. Now Remove Line 44. Save the program and run it again. What error message do you get and why?

9. **EXTENSION:** Add another bank account with a starting balance of \$5000 that users can choose from. Modify the code as needed to accomplish this. Email Mr. Z your modified code (the TextWrangler file) so that he can run it and check it.

10. **BONUS:** Go to Line 22. Towards the end of the line, notice “\n”. Figure out what this does. (*HINT – google “python \n escape sequence”*)