

A112 – Lab 4

Input Validation and Conditional Logic Continued

DUE Friday, April 5, 2024, by 3:00:00 pm (SHARP)
Submit Python script file A112_LAB4_YOUR_NAME.py to
“LAB 4” Assignment in your Canvas “Lab Assignments” group

Goal: In this lab, you will deepen your programming skills by developing a simple authentication system. The focus will be on mastering input validation and conditional logic to ensure the security and functionality of user logins. By engaging in this exercise, you will enhance your ability to write structured, logical code that can differentiate and respond to various user input scenarios.

Implementing Basic User Authentication

1. Open IDLE and click on File > New File to create a new Python script file (‘.py’).
2. Click on File > Save as.. to save the file to your preferred method of choice. Save it as A112_LAB4_YOUR_NAME.py.
3. Write a program meeting the following requirements:
 - a. Initialize two variables to store the valid username and password. For simplicity, hard code the valid credentials (i.e., valid_username = “user123”).
 - b. Use the input() function to ask the user to enter their username and password. Store these inputs in two separate variables.
 - c. Next, you will write a series of conditional statements to check if the username and password entered by the user match the valid credentials. You will explicitly handle four conditions to provide specific feedback:
 - i. Login Success: Check if both the username and password match the stored values.
 - ii. Both Username and Password Incorrect: Handle the scenario where both inputs are incorrect.
 - iii. Password Incorrect: Identify when the username is correct, but the password is not.
 - iv. Username Incorrect: Detect when the password is correct, but the username is not.Hint: Part (c) of this task will consist of exactly 8 lines of code: four will be print() statements to provide feedback to the user, and the other four will be conditional statements to assess the accuracy of the username and password entered:

```
if _ == _ and _ == _:  
    print("Login successful!")  
elif _ != _ and _ != _:  
    print("Both username and password are incorrect.")  
elif _ == _:  
    print("Username is incorrect.")  
else:  
    print("Password is incorrect.")
```

4. Ensure that your code is appropriately commented.
5. Run, test, and debug your code and make sure it works.
6. Submit the single A112_LAB4_YOUR_NAME.py file to your Canvas “LAB 4” assignment **by 3:00 PM today as indicated above.**

Scoring:

Successfully submitted to Canvas: **2 points**

File “compiles” and runs: **2 points**

Appropriate heading & comments: **2 points**

Authentication system accuracy and completeness : **4 points**

Handing in your Assignment

It should be clear that failure to successfully submit your Python script (.py) file to your Canvas “LAB 4” assignment in the “Lab Assignments” section or failing to meet the deadline will result in a score of zero (0). Partial credit will only be possible if your Python script doesn't compile successfully without errors, but you are successful in submitting the file and most or all of what you submit is correct. If you have questions about this, ask them ASAP.