

*Python Core*

*Training Assignments*

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| **Program Code** |  |
| **Issue/Revision** | **x/y** |
| **Effective date** | **26/Jun/2023** |

**Assignment Day 03**

1. **Implement the algorithm from description (String: 8-1):**

The program asks the user to enter a string. It then uses a for loop to iterate over the string, counting the number of times that the letter T (uppercase or lowercase) appears.

1. **Implement the algorithm from pseudocode (String: 8-6):**

valid\_password function:

Set the correct\_length variable to false

Set the has\_uppercase variable to false

Set the has\_lowercase variable to false

Set the has\_digit variable to false

If the password’s length is seven characters or greater:

Set the correct\_length variable to true for each character in the password:

if the character is an uppercase letter:

Set the has\_uppercase variable to true

if the character is a lowercase letter:

Set the has\_lowercase variable to true

if the character is a digit:

Set the has\_digit variable to true

If correct\_length and has\_uppercase and has\_lowercase and has\_digit:

Set the is\_valid variable to true

else:

Set the is\_valid variable to false

Return the is\_valid variable

Hàm valid\_password:

Gán giá trị biến correct\_length thành False

Gán giá trị biến has\_uppercase thành False

Gán giá trị biến has\_lowercase thành False

Gán giá trị biến has\_digit variable thành False

Nếu độ dài mật khẩu (password) từ 7 ký tự trở lên:

Gán giá trị biến correct\_length thành True

Lặp qua từng ký tự trong chuỗi password:

Nếu ký tự đang duyệt là viết hoa:

Gán giá trị biến has\_uppercase thành True

Nếu ký tự đang duyệt là viết thường:

Gán giá trị biến has\_lowercase thành True

Nếu ký tự đang duyệt là số:

Gán giá trị biến has\_digit thành True

Nếu correct\_length và has\_uppercase và has\_lowercase và has\_digit đều bằng True:

Gán giá trị biếnis\_valid variable thành True

Ngoài ra thì:

Gán giá trị biến is\_valid thành False

Trả về kết quả kiểm tra (biến is\_valid) bằng cách sử dụng return is\_valid

1. **Implement the algorithm from description (List: 7-7):**

Megan owns a small neighborhood coffee shop, and she has six employees who work as baristas (coffee bartenders). All of the employees have the same hourly pay rate. Megan has asked you to design a program that will allow her to enter the number of hours worked by each employee, then display the amounts of all the employees’ gross pay. You determine the program should perform the following steps:

* For each employee: get the number of hours worked and store it in a list element.
* For each list element: use the value stored in the element to calculate an employee’s gross pay. Display the amount of the gross pay.

1. **Implement the algorithm from description (List: 7-3):**

The append method is commonly used to add items to a list. The item that is passed as an argument is appended to the end of the list’s existing elements.

**4. Implement the algorithm from description (Dictionary: 9-2):**

The program that keeps your friends’ names and birthdays in a dictionary. Each entry in the dictionary uses a friend’s name as the key, and that friend’s birthday as the value. You can use the program to look up your friends’ birthdays by enter- ing their names. The program displays a menu that allows the user to make one of the following choices:

* Look up a birthday
* Add a new birthday
* Change a birthday
* Delete a birthday
* Quit the program

The program initially starts with an empty dictionary, so you have to choose item 2 from the menu to add a new entry. Once you have added a few entries, you can choose item 1 to look up a specific person’s birthday, item 3 to change an existing birthday in the dictionary, item 4 to delete a birthday from the dictionary, or item 5 to quit the program.