CS 115 - Introduction to Programming in Python

Lab Guide 04

Lab Objectives: Files and Modules

[Q1A] Write a python module, **`ModuleQ1.py`** that contains the following functions:

1. **displayMenu():** the function should display the menu shown in the sample run, and return the int value input by the user. The method should keep inputting a choice until a valid value (1-3) is entered.

2. **generateEmailAddresses:** takes an input and output file name as parameters. The input file passed as a parameter contains the name, surname and department code of Bilkent employees each on a separate line. Your function should first determine the number of employees in the file. The function should then generate an email address for each employee in the file and append the email address to the output file with the name passed as a parameter. Return the number of employees in the file.

   The email address is generated as follows:

   - first character of name
   - surname
   - user number
   - @
   - department code
   - .bilkent.edu.tr

   The first user in a department with the given user name (first character of the name and surname) will be assigned the user number 1. Any additional users with the user name, in the *SAME* department will be assigned the next user number in the series (2,3…). The user number should be determined by counting the number of existing employees with the given user name using the searchUserExists() method and incrementing the returned value by one.

3. **searchUserExists():** This function takes a username (first character of name followed by the surname) department code of an employee and the name of a file containing email addresses as parameters. The function should search the given file and count the number of employees with the same username **and department** and return the number of such employees.

4. **displayEmailAddresses ():** takes a filename as a parameter and displays all email addresses in the given file.

[Q1B]

5. **Write a python script that uses the functions defined in the module to** display the menu, input data and execute the menu functionality.

Sample Run:
> **Menu:**
> **(1) Generate Email Addresses**
> **(2) Display Email Addresses**
> **(3) EXIT**
>
> **Enter choice: 1**
> **9 email addresses created...**
> **Menu:**
> **(1) Generate Email Addresses**
> **(2) Display Email Addresses**
> **(3) EXIT**
>
> **Enter choice: 2**
> **AJones1@cs.bilkent.edu.tr**
> **CYasar1@fen.bilkent.edu.tr**
> **AAkraba1@fen.bilkent.edu.tr**
> **AJones2@cs.bilkent.edu.tr**
> **AJones1@ee.bilkent.edu.tr**
> **VKarakus1@cs.bilkent.edu.tr**
> **AJones3@cs.bilkent.edu.tr**
> **CYildiz1@fen.bilkent.edu.tr**
> **AAkraba2@fen.bilkent.edu.tr**
>
> **Menu:**
> **(1) Generate Email Addresses**
> **(2) Display Email Addresses**
> **(3) EXIT**
>
> **Enter choice: 3**

Program ended...