CMPT 120,
Summer 2016, SFU Burnaby
Instructor: Diana Cukierman
Password generator

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Assignment #3 – TEAM OR INDIVIDUAL WORK

- **You may work in group of 2**
- **If you work in a group you need to join a pre-existing group in Canvas associated to assignment #3**
- **Deadline: Wednesday June 8, 11:59 pm (1 minute before midnight)**
- **You may submit earlier. A solution will be posted immediately after the deadline.**

Classes materials and Lab exercises from weeks 2, 3 and 4 are directly relevant to this assignment

Working on this assignment will at the same time help you prepare for the quiz (the quiz will take place on Thursday June 9, during class time). The topics coverage for the quiz will be announced later.

General description

Your program will ask the user (who is a student) his/her name, age and one course he is registered to.

Then it will do calculations and show a password as detailed below.

The whole program only asks data to the user, calculates and prints results once. To test many cases (for different user names, courses, etc) the user needs to run the program several times.

More detailed description of the program to be implemented

a. Print a welcome message
b. Ask the user:
 i. his/her **name**. **Assume** that the user will type the name by typing first the first name, then a space and then the last name. Assume the last name has at least 2 letters.
 ii. **age**. **Assume** the user types an integer number greater than 0
 iii. **a course** the student is registered in. **Assume** that the user types in the correct format. Courses codes are formed of two parts separated by a dash (-). Both parts contain at least a character. The first part will contain only letters. The second part may contain all numbers or all letters.
 For example, courses may be: CMPT-120, MATH-CALC, ART-1, X-1234

c. Create the password (as indicated below)
d. Print the password to the user.

Password

The password will be formed:

a. It starts with the second letter of the first name in upper case, followed by
b. the first two letters of the last name, followed by
c. the last letter of the last name, followed by
d. as many stars (*) as the "tens" part of the age. For example, if the user is 21 years old there will be 2 stars, followed by
e. as many dollar signs ($) as the integer part of the square root of the age. For example, if the user's age is 21, since the square root of 21 is 4.58… there will be 4 $ signs, followed by
f. the last letter of the course first part, followed by
g. (only if the second part of the course is a number) the last course digit (if the second part is not a number noting is added at this stage.
h. if the length of the code (formed until and including part g) is an even number, then the code will additionally be followed by the letter "E"

Requirements

1. Follow exactly the problem description. Get inspired in the sample runs (you may change the dialog with the user as long as the same information is shown).

2. Include comments in your code, including the name/s of the author/s of the program at the top.

3. You are only required to define one function, similar to the welcome message function in the posted solution for assignment 1. The rest of your program can be all included at the top level.

4. Include at least one intermediate printing showing intermediate results to best follow and debug the program (see the TRACE messages in the sample run)

CLARIFICATIONS, HINTS:

1. Some string methods will be especially useful for you. Check the String methods in the summary tables provided associated to lab week 4 and in class, and the python library. In particular check the methods find() and isdigit()

2. You may need to use the math module. Place the *import* statement of this module at the top level (not inside the welcome function)

End of Assignment #3