Project 4 - Username Generator with Dup Checker User Input Password function – 50 points Project

Requirements

Name of program file:	username_password_generator.py
Description of program:	This program will test your new function and OOP logic. Again, you will be enhancing and changing your program from last week by converting the username logic to a method, creating 2 classes (person and employee) and adding several class methods including a password generator. First, you will take your last week program and add input logic to ask the end user what type of password they would like with their new username. You will ask the employee 3 additional questions. How long they would like their password to be and would they like special characters and numbers in their password. You must validate the password length to be no less than 10 and no greater than 16 and it must also be an integer. After the input section is enhanced, you will need to create 2 class files, person.py and employee.py. and the employee class will inherit from the person class. The classes will have several properties (attributes) and several methods. Within the employee class you will create a password method that will be called while passing the employee's choices into the employee class. The function will then create the password and then return the new password to a string variable. There will be several more methods outline below. After that is complete, you will convert your code to generate a username into a value returning function. This function will take first name, last name, and year of birth as parameters and return the password to the calling function. You will also need a way to retrieve and store new information from the person class, a message for each person and their age in years. The last step in the processing will be to create an employee data dictionary that will use the username as the key and a list with employee first name, last name, year of birth and password. Finally, you will output much of your data with the use of the print() function. This will be a challenging program. Please do not wait until the last minute to start.

Program Requirements:	`The program MUST follow the input, process, output model described in the syllabus video and the introduction to programming pdf.  You MUST follow the structure outlined or you will lose points.`

This program will need the import statements for username and today’s date.

This program must have a flower box comment section with your name, date created, and description of the program **(FYI: Not My Description from Above)**

This program will modify and enhance project 3.

Input section:

Add logic to the input section that will **add** 3 additional questions about password construction.

How long do you want your password? Length must be between 10 and 16 in length.
Do you want special characters in your password?
Do you want numbers in your password?

You will validate the password length the user entered and make sure it is at least 10 but not greater than 16 and that it can be converted to an integer.

You will add the new input to the employee data list for later processing.

Classes needed: (in separate py files)

Person class:
Properties: first name, last name, birth_year
Methods: greet person that returns a message and age that will return a person’s age in years based on the current year

Employee class:
Will inherit from the Person class
Properties: password length, use special characters flag, use numbers flag
Methods: build password that will take the properties and create a password that will be of the requested length and have special characters and numbers if the employee request them.

Process section:
Gather the data entered in a list with the elements being of type tuple containing first name, last name, birth_year (this

Add a function **under the variable section** to generate a username. (see example below) This function will take the first name, last name and year of birth as parameters along with a duplicate found flag. The duplicate found flag will be used in the function’s if else logic to generate the correct type of username. You will then pass the username back out to the function call.

After the creation of the username, instantiate a copy of the employee class and pass all the employee data to it including first name, last name, birth year, password length, use special characters flag, and use numbers flag.

Within the person class you will create a message and calculate the person’s age in years and store that information in a list to be printed out in the output section. In the employee class (which should inherit from person), you will generate a password of required length and use special characters and numbers if the employee has requested. Pass the password back to your main program.

Create a list with the following data in it and add it to the Employee data dictionary INSTEAD of the content of the employee tuple. Use the **username** as the **key** and a tuple as the value with the following data: first name, last name, year of birth, password in a list

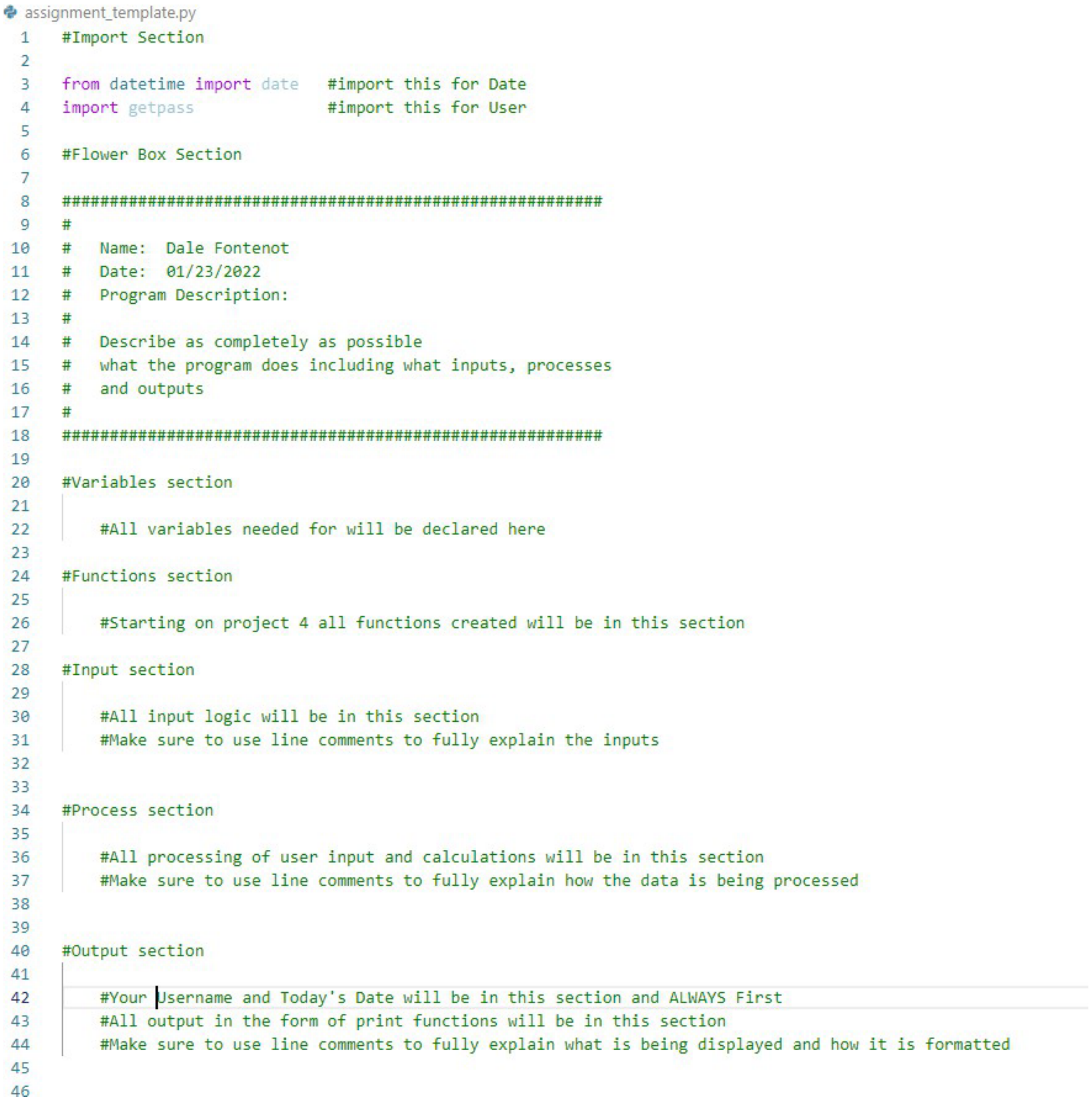
Leave the copy and sort of the username list in from last week.

Output section:
Output is same as last program.
You must then output the following information in this order:

Username
Today’s Date
Loop the list with the message and ages and display a message that reads Hello, XXXX! You are XX years old. This should be printed after the standard Username and Today’s date but before all the other output listed below.
Username list with all usernames
Employee data dictionary
Username list that has been sorted

What to turn in:	Take a screen shot of your **RUNNING** program Upload the screen shot and all 3 **py** files to blackboard as **Four (4)** separate files. Take a screenshot of your **RUNNING** program Upload the screenshot and the source code file as a TEXT file (see video on how to convert a py or ipynb file to a txt file) to blackboard as **four** separate files.

Assignment Template



assignment_template.py

```
#Import Section

from datetime import date   #import this for Date
import getpass              #import this for User

#Flower Box Section

#########################################################
#
#   Name:  Dale Fontenot
#   Date:  01/23/2022
#   Program Description:
#
#   Describe as completely as possible
#   what the program does including what inputs, processes
#   and outputs
#
#########################################################

#Variables section

    #All variables needed for will be declared here

#Functions section

    #Starting on project 4 all functions created will be in this section

#Input section

    #All input logic will be in this section
    #Make sure to use line comments to fully explain the inputs


#Process section

    #All processing of user input and calculations will be in this section
    #Make sure to use line comments to fully explain how the data is being processed


#Output section

    #Your Username and Today's Date will be in this section and ALWAYS First
    #All output in the form of print functions will be in this section
    #Make sure to use line comments to fully explain what is being displayed and how it is formatted


```