Task Summary

In response to the issues raised in the case study provided, design and develop Python programs that address business needs. You are required to undertake three tasks using the concepts learned in Modules 1 and 2. Please refer to the Instructions for details on how to complete this task.

Case Study

Online ordering has enabled many restaurants to manage their peak business hours very effectively. Thanks to online ordering, many people manage to prevent the painful experience of wasting time in a long queue.

ABC is one of the biggest restaurant chains in Australia. They decided to offer their customers a convenient and contactless mobile ordering solution in response to the growing business need and COVID restrictions.

As part of the development team in the XYZ software company, you are required to design and develop the mobile ordering program. Before the application release deadline, you are required to submit the following deliverables:

1- A design of the application using a Flow Chart diagram
2- Python program for the three tasks as per the description that follows in this document

Program Description:

In this program you have to create a mobile ordering application for a restaurant. The restaurant has variety of cuisines to offer their customers.

When the program starts, the user is given the following options:

1- **Sign up**
2- **Log in**
3- **Quit application**

Output:

```
Please enter 1 for Sign up.
Please enter 2 for Log in.
Please enter 3 for Exit.
```

Your program should keep running and enable multiple users to sign up and log in, until the quit application option is selected.

Output: If User enters 3

```
Thank You for using the Application.
```

Task 1: To start using the mobile app, users should signup an account. You are required to create a Python class for the signup process. The users will be asked to enter their full name, contact number, email id, date of birth, password, and password confirmation.

1. ***The signup process will not be successful until:***
    a. ***The mobile number has 10 digits starting with 0.***
    b. ***The Password must initiate with alphabets followed by either one of @, #, $ and ending with numeric. (For Example: Sam@0125)***
    c. ***The password confirmation matches the initial entered password.***
    d. ***The DOB is in the format DD/MM/YYYY***
    e. ***The user is at least 18 years old. The age should be calculated based on the year entered in the DOB (Only consider year).***

2. ***If any of the above-mentioned condition is not fulfilled; the sign-up should fail and descriptive message should be displayed for the explaining what has gone wrong and providing hints on the correct expected input. The program should keep asking the user to re-enter his details as long as one or more of the input fields are not correctly entered. If all fields are entered successfully, the program should stop asking the user to re-enter his details and display a message that the signup process has been completed successfully. If any field is entered incorrectly, some examples of sample outputs are given below.***

Output 1:

```
You have entered the Date of Birth in invalid format.
Please start again:
```

Output 2:

```
Your passwords are not matching.
Please start again:
```

3. ***If all of the above-mentioned conditions are successful, the user data is saved in appropriate data structure (Hint: List can be used) to enable data checks during the login process described in Task 2.***

Output:

```
Please enter your name:John

Please enter your mobile number:0111111111

Please enter your Password:X@21

Please confirm your Password:X@21

Please Enter your Date of Birth # DD/MM/YYYY (No Space):11/11/1988
You have Successfully Signed up.
Please enter 1 for Sign up.
Please enter 2 for Log in.
Please enter 3 for Exit.
```

***Task 2**: In continuation to task 1, You are required to write a python program to allow the signed-up users to Login the application:*

User must be asked to select from one of the 2 options from Signup or Login, until he selects the option to exit from the application.

Output:

```
Please enter 1 for Sign up.
Please enter 2 for Log in.
Please enter 3 for Exit.
```

During the signup, same process must be applied as mentioned in task 1.

The Application must save the User's information of all the Successful Signups in the appropriate data structure (Hint: List can be used), for verification purposes.

Please try your program with multiple signups at once to ensure the login details are saved for verification purposes.

During the login the program must verify the user id and password before confirming the user for successful login.

Once the login is successful the user's name must be displayed in the greeting message.

After the login the user must be asked the options to sign-out and reset the password.

Output:

```
Please enter your Username (Mobile Number):0111111111

Please enter your password:X@21
You have successfyully Signed in
Welcome John
Please enter 1 for Resetting the Password.
Please enter 2 for Signout.
```

If the user selects the Sign-out option, the user is back to the home screen with the options of Signup, Login and Quit Application.

Output:

```
Thank You for using the application.
Please enter 1 for Sign up.
Please enter 2 for Log in.
Please enter 3 for Exit.
```

Task 3: - In Continuation to Task 2: Resetting the password

Part 1 – Reset Password from Menu

Post Login the user must be shown an option to reset the password, and sign-out, where the user must enter his username, old password, and new password.

Output:

```
Please enter your Username (Mobile Number):0111111111

Please enter your password:X@21
You have successfyully Signed in
Welcome John
Please enter 1 for Resetting the Password.
Please enter 2 for Signout.
```

Output:

```
Please enter your Username (Mobile Number):0111111111

Please enter your old password:X@21

Please enter your new password:Y@21
Your Password has been reset successfully.
Please enter 1 for Resetting the Password.
Please enter 2 for Signout.
```

After the verification of username and old password, the new password must be saved in the appropriate data structure (Hint: List can be used).

Part 2 – Reset Password due to Unsuccessful Login attempts

User is allowed with only 3 attempts for unsuccessful login, and then must be shown the option to reset the password.

During the reset password the user must be asked to enter the username (mobile number), which must be verified before asking the user to enter his DOB.

Once the DOB is verified with the details saved in the memory, the user must be provided with the option to enter a new password, in the provided format.

If valid, the user's password must be replaced with the previously entered password, and if not the process of resetting the password must be restarted from entering the username and password.

Output:

```
You have used the maximum attempts of Login:
Please reset the password by entering the below details:

Please enter your Username (Mobile Number) to confirm:0111111111

Please enter your Date of Birth in DD/MM/YYYY format, to confirm:11/11/1985

Please enter your new password:X@23

Please re-enter your new password:X@23
Your Password has been reset successfully.
Please enter 1 for Sign up.
Please enter 2 for Log in.
Please enter 3 for Exit.
```

The user is not allowed to set a password, which he has used previously.

Output:

```
You have used the maximum attempts of Login:
Please reset the password by entering the below details:

Please enter your Username (Mobile Number) to confirm:0111111111

Please enter your Date of Birth in DD/MM/YYYY format, to confirm:11/11/1985

Please enter your new password:X@21

Please re-enter your new password:X@21
You cannot use the password used earlier.
Please enter 1 for Sign up.
Please enter 2 for Log in.
Please enter 3 for Exit.
```