Web Application Revision Practice 6 [RI/2023/Prelim/P2/Task 4]

A fitness club stores members' information in a database and manages them to provide statistics related to their fitness progress.

It has a database named '`FITNESS.db`' containing two tables:

- `Member(MemberID, Name, Gender, Age)`: Stores information about club members
- `FitnessRecord (RecordID, MemberID, Weight, Height, WorkoutDate)`: Stores fitness records of members including their weight, height, and the date of the workout.

Each member has a unique member ID, and their name, gender and age are recorded in the `Member` table.

For every visit to the fitness club, members will have their weight and height, with their workout date recorded in the `FitnessRecord table`. Each record has a unique record ID.

Task 4.1

Write a Python program and the necessary files to create a web application. The homepage displays a menu with the following options:

```
1. Member Details
2. Fitness Statistics
3. Add Fitness Record
```

Save your program code as
`Task4_1_<your name>_<centre number>_<index number>.py`

with any additional files/subfolders as needed in a folder name
`Task4_1_<your name>_<centre number>_<index number>`

Run the web application and save the output of the program as
`Task4_1_<your name>_<centre number>_<index number>.html` [5]

Task 4.2

Write an SQL query that shows

- all members' names, genders, ages, and the latest recorded weight and height, with date. For members with missing fitness records, show only the names, genders and ages.
- sorted by gender, then names in ascending order.

By adding to the program code in Task 4.1, display the results of the query on a web page in a table when user selects option 1 of menu.

Save your SQL code as
`Task4_2_<your name>_<centre number>_<index number>.sql`

and save your program code as
`Task4_2_<your name>_<centre number>_<index number>.py`

with any additional files/subfolders as needed in a folder name
`Task4_2_<your name>_<centre number>_<index number>` [7]

Run the web application and save the output of the program as
`Task4_2_<your name>_<centre number>_<index number>.html` [1]

Task 4.3

Write an SQL query that shows

- the total number of male and female members
- average age of male and female members, rounded off to 1 decimal place
- average weight and height of male and female members, rounded off to 1 decimal place, based on the latest workout date.

By adding to the program code in Task 4.2, display the results of the query on a web page in a table when user selects option 2 of menu.

Save your SQL code as
`Task4_3_<your name>_<centre number>_<index number>.sql`

and save your program code as
`Task4_3_<your name>_<centre number>_<index number>.py`

with any additional files/subfolders as needed in a folder name
`Task4_3_<your name>_<centre number>_<index number>` [7]

Run the web application and save the output of the program as
`Task4_3_<your name>_<centre number>_<index number>.html` [1]

Task 4.4

By adding to the program code in Task 4.3, create a web page to allow user to input a new fitness record for a member. The record should include the Member ID, Weight, Height, and Workout Date.

When user selects option 3 of menu, this web page will display a form for input.

The information input should be stored in the existing database '`FITNESS.db`'.

Save your program code as
`Task4_4_<your name>_<centre number>_<index number>.py`

with any additional files/subfolders as needed in a folder name
`Task4_4_<your name>_<centre number>_<index number>` [7]

Run the web application and input the following new record into the database:

Member ID:	M102
Weight:	65 kg
Height:	165 cm
Workout Date:	2023-08-14

After adding this new record, select option 1 of menu to display member details.

Save the output of the program as
`Task4_4_<your name>_<centre number>_<index number>.html` [1]