4 A sports club uses the database, `Task4.db`, to keep track of its activities.

The database has three tables to store information on:

- the courses available
- the members who come to their club
- the certificates issued for completed courses.

The descriptions for the tables are as follows:

- `Course (CourseCode, Description, Fee)`
- `Member (MemberId, FirstName, LastName, Phone)`
- `Certificate (MemberId, CourseCode, IssueDate, Status)`

Task 4.1

As part of an upgrading programme, the club decides to extend its functionality to the web.

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

Menu
Delete Erroneous Certs
VIP Voucher Recipients
Add Certificate 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 named

`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` [4]

Task 4.2

In accordance with their regulations, certificate records deemed erroneous are flagged with a 3-digit status code of 404.

Write an SQL query that removes the erroneous data records in the certificates table and counts the number of records removed.

The resulting number of records removed should be labelled clearly and shown on a web page, accessed from the `Delete Erroneous Certs` menu option from **Task 4.1**.

Save all your SQL code as

`TASK4_2_<your name>_<centre number>_<index number>.sql`

with any additional files/subfolders as needed in a folder named

`Task4_2_<your name>_<centre number>_<index_ number>` [4]

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

As part of a member incentive, members who were issued course certificates after January 2023 are entitled to a VIP voucher.

Write an SQL query that shows, for members who are VIP voucher recipients, their:

- first name and last name
- phone number
- course description
- certificate issue date
- sorted by last name and first name
- in ascending order.

The resulting member details should be shown on a web page in a table, accessed from the appropriate menu option from **Task 4.1**.

Save all your SQL code as

`TASK4_3_<your name>_<centre number>_<index number>.sql`

with any additional files/subfolders as needed in a folder named

`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

The data from the database, `Task4.db`, is to be used to implement a certificate record entry form in a web browser.

Write a Python program and the necessary files to create a web application that:

- displays a web form
- enables the user to enter the following information:
  - member ID
  - course code
  - issue date
- sets the status code to 200 by default
- stores the record in the database
- shows a success or error message alongside the entry details.

The web application should be accessed from the appropriate menu option from **Task 4.1**.

Save your program as

`TASK4_4_<your name>_<centre number>_<index number>.py`

with any additional files / sub-folders as needed in a folder named

`TASK4_4_<your name>_<centre number>_<index number>` [9]

Run the web application and add the following entries using the web form:

- member ID: `145543`, course code: `CR0001`, issue date: `2023-05-27`
- member ID: `151179`, course code: `CR0001`, issue date: `2023-05-27`.

Save the outputs of the program as

`Task4_4_<your name>_<centre number>_<index number>_1.html`

`Task4_4_<your name>_<centre number>_<index number>_2.html` [2]

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