THE OPEN UNIVERSITY OF SRI LANKA

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

BACHELOR OF SOFTWARE ENGINEERING HONOURS

EEI4366/ EEX4366 Data Modeling and Database Systems

Answers to this Mini Project should be uploaded to the LMS drop box only.

(Answers should be clear, and readable. Unclear, unreadable, **copied and direct reproduction from the textbooks or plagiarized copies** will not gain any points for the answers. Delayed submissions will not be accepted and the dropbox will be closed on the due date.)

Mini Project due date 28th November 2024

- You need to prepare a report on your work with the queries and the result set. The sql script file also needs to be submitted. Both the report and the sql script file need to be included in one folder, make it a zip file and upload it to the dropbox after naming it with your student registration number.
- The evaluation of the mini project will be done based on a **demonstration (viva)** of your database (DB creation, population, and queries).
- This demonstration will consist of running your SQL script and answering questions as requested by the tutor.
- Please note that you will **NOT** be awarded any marks for the Mini Project if you are **unable to present** for the demonstration or **unable to demonstrate sufficient understanding** of your work.
- Demonstration (VIVA) date and time will be given by the tutor and will be done in your respective EEI4366 MS Teams group.
- You are required to **use the database** you created and populated for TMA 2. And make any modifications to the database you created based on the queries given in the mini project. Sufficient amount of data should be inserted in the tables to execute the queries.
- Use updated database and data, if you made changes to the database you submitted for TMA 2.

Guidelines:

- Create your SQL scripts using MySQL Workbench.
- Make sure your SQL scripts run without resulting in any errors.
- Format your SQL queries to improve readability and use comments where necessary.
- You need to include evidence for the results of each SQL query.

Q1) Create a view to display each Student's User ID, Student name (combination of First and Last names), Enrollment Status, Course Title, and Instructor Name (combination of First and Last names).

Q2) Create a table called CourseInfo with the following schema and use **triggers** for the specified operations:

CourseInfo (CourseID, Title, CreditHours, InstructorID)

I. Use a trigger to insert data into CourseInfo whenever a new course record is added to the Courses table.
II. Set up a trigger to automatically update values in CourseInfo when a record in the Courses table is updated.
III. iii. Set up a trigger to delete values in CourseInfo when a record in the Courses table is deleted.

Q3) Create a stored procedure (SP) to get the total number of courses enrolled by a student by providing the Student's User ID as the input parameter. The result should be assigned to an InOut parameter. Execute the SP and, when calling it, pass a session variable to store the output. (Provide suitable variable names)

Q4) Create a function to calculate the number of days remaining until an assignment's due date and, using this function, display all the information for assignments that are due within the next 7 days.

Q5) Create a stored procedure (SP) to calculate the average score for a specific assignment across all students. Provide the Assignment ID as an input parameter and store the result in an InOut parameter. Execute the SP and save the output to a session variable. (Provide suitable variable names)

Q6) Store some data about Courses and Users in two XML files, and load these data into the corresponding tables (Courses and Users) using a SQL query.

Q7) Create a view to show Assignment Submissions by displaying each Submission ID, Student Name (combination of First and Last names), Course Title, Assignment Title, Score, and Feedback provided by the Instructor.

Q8) Write a trigger that automatically updates a course enrollment status to “completed” when a student’s final assignment submission is graded and the course end date has passed.

***Note** : Include all your SQL statements with evidence of query results. Add a comment to each question in the following format, <Q1 – RegistrationNumber> into your Mini Project report. You can mention any assumptions you made.*

-- End of the Mini Project --