Assignment

Assignment details.

You are required to **design** and **implement** a database system using MySQL.

There are two project deliverables:

1. Design Document.
2. MySQL Implementation.

Upload your Design Report (pdf) and SQL scripts to Moodle before Midnight on May 19, 2024.

Design Document

For the design phase, you are to update and complete your Database Design document.

Design Document Deliverable

This document serves as the design and implementation plan for the database. It is at this stage that the database should be modelled and associated documentation should be developed. This report should have the following structure:

1. **Title Page**: This should contain the name of the report, student number and student name, date and module.

2. **Table of Contents**: This should include major sections and page numbers.

3. **Business Description**: The business description should include a description of the business, along with its major functions.

4. **Conceptual Data Model**: The data model should be sufficiently complex, including different types of relationships/associations as relevant. Your model should include binary relationships and include one or more of the advanced concepts covered, (e.g. multivalued attribute, recursive relationship, weak entity).

5. **Logical Data Model**: Map the ER diagram into a set of relations.

Submitting your assignment

- The design document should be submitted in an electronic format through Moodle by **Midnight on May 19, 2024.**

MySQL Implementation

In this phase all previous documentation will be used in order to implement the actual database in the MySQL environment.

Implementation Deliverable

You must submit two SQL scripts:

- Script One:
  - Creates the database and tables
  - Populates the tables with records (meaningful data)
- Script Two:
  - Contains the list of frequently used queries for the database. You should include a variety of the following:
    - WHERE….IN
    - WHERE….BETWEEN
    - WHERE….LIKE
    - Date functions
    - At least two examples of multi-table JOINs
    - Aggregate functions
    - GROUP BY
    - GROUP BY…HAVING
    - ORDER BY
    - OUTER JOINs
  - Comment each query to explain what you are outputting.

Submitting your assignment

The two SQL scripts should be submitted through Moodle by **Midnight on May 19, 2024.**

Marking Scheme

Design part:

	Conceptual Design					Logical Design		
Report Layout	Description	Entities	Attributes	Relationships	Extra	Entities	Attributes	Relationships
10	10	5	10	15	10	5	10	25

Implementation part (SQL):

Create Syntax		Keys				Select							
Create-3 Use-3	Datatype Char int decimal date	Primary	Foreign Setup - 6 on update-2 on delete-2	Insert	Commit	Basic	concat/ as	In/ and/or/ Between/ Like/ Null	aggregate/ calc (2)	Group by	Join	outer join	order by
6	10	5	10	10	4	5	5	15	5	5	10	5	5