Database System 1 – group GD1a

Individual/Pair Project (60% in total)

Deadline: Stage #2 – 60% - Wednesday 25th May @ 23:00

Design and implement a MySQL database for an application of your choice.   
The database will typically contain at least 5 related tables.

* Develop a scenario in an area that interests you. Use the class examples as a guide for this exercise.
* Develop an entity/relationship diagram to model your scenario.
* Assign appropriate data types, field sizes and possible constraints to the fields of each table. Ensure all tables are related to at least one other table.
* Populate each table with at least 10 records.
* Design a variety of SQL statements to delete, update and retrieve data from your database.

**Submission Requirements:**

**Project Topic:** no two projects are allowed to use the same topic. You are required to discuss with your lecturer the topic you have chosen by 10th March and make sure you receive your lecturer’s approval of your topic before proceeding to Stage #1.

**Stage #2: Final upload** (Worth 60% of the module) will be submitted on Wednesday, 25th May, and will contain two files:

* Word document containing

**(a)** Stage#1 documentation and an outline of any changes made for the final version

**(b)** Final scenario

**(c)** Final Entity Relationship Diagram

**(d)** Dump of table data on which your queries were tested

* .SQL file containing

**(a)** CREATE TABLE statements

**(b)** INSERT statements for at least 10 records in each table

**(c)** A variety of SQL statements to show your understanding of both the data and SQL commands. You need to ensure to include SQL statements which make use of all topics covered this semester, including JOIN between more than 2 tables, UPDATEs, DELETEs, ALTER TABLE, Alias, Aggregate Functions, ORDER BY, etc. At least 15 SQL statements are expected.

**(d)** It is paramount that you also review the date & times functions link provided as part of the Clubs-Activities-Schedule database.

(<https://dev.mysql.com/doc/refman/8.0/en/date-and-time-functions.html>) and include at least 5 SQL statements which make use of these functions.

**(e)** You also need to revise the document *“SQL exercise: Alias, Order by, Group by, Aggregate functions” (“QL Alias order by group by.docx")* from Weeks 6&7 and ensure that you adapt all 5 SQL statements on Page 2 to your database with some additional elements per your choice.

**(f)** You need to ensure all your tables are in the relevant normal form, detailing the normalisation process you went through to achieve 1NF, 2NF and 3NF.

The Upload should clearly state the names of the student(s) making the submission. If you submitted a pair project, ensure to clarify in your document which parts of the project were completed by which team member

You will have access to all SD1a and SD1b solutions, accessible on Moodle.

Please note that you will receive support for this extended project, starting on 9th May, with further details given in due course.