Practical 1
MySQL Workbench

Background

MySQL Workbench is a visual database tool. It can be used to define, manipulate and query databases. This tool is suited for definition of Databases, prototyping queries, importing/exporting data and visually exploring stored information.

Open MySQL Workbench and connect to local database as root. The passwords and connection criteria for this account are present on Blackboard.

W3Schools.com host a number of example queries and reference materials that may assist you in this practical, http://www.w3schools.com/sql/.

Tasks

T0 Open MySQL workbench and create a stored connection to the database. Store the password in the vault. If this is on your own system, this will be the password you created in setup for the root user.

T1 Spend 5-10 minutes to explore the features of the MySQL workbench. Locate the query interface, import/export options, the schema creation interface, the UI for table creation

T2 Use workbench to create the schema and tables you modelled in Practical 0. Workbench will provide a summary of the SQL it has generated during your operations. Record these and study them to understand what the statements mean

T3 Use workbench to create SQL statements which insert at least 20 instances of sample data across the tables you created. There should be at least one course, two modules, a lecturer per module and 4-7 students per module.

T4 Generate SELECT commands to display data stored within the database. Explore using the ORDER and GROUP commands

T5 Create a SELECT query that generates a list of students that are studying a particular module, as specified by a module code in the WHERE clause. This query should use a JOIN or similar

T6 Create a SELECT query to provide a module information containing Module Code, Module name, Lecturer and Student count. This should built upon T5

T7 Create a SELECT query to provide a list of students across all modules

T8 Create a SELECT query to provide a total count of students across all modules

T9 Generate an UPDATE query to update the name of each module independently as determined by specific module code where the module code is specified in the WHERE clause

T10 Create a DELETE query to delete all students from a specified module, where the module code is specified in the WHERE clause