Lab 7 – Databases and MySQL

Reference: Chapter 6 of the "PHP Programming with MySQL" textbook.

Aims:

- The aim of this exercise is to practice the coding of SQL by creating and manipulating a database table on the MySQL database server.

Getting Started:

Create a new folder '**lab07**' under the unit folder on the mercury server
~/cos30020/www/htdocs /

Save the steps in today's task as a text file in that folder.

How to login to your MySQL account:

1. Login to the `mercury.swin.edu.au` server using 'putty' client.

2. To access your mysql account type in:
      `mysql`   *(press Enter key)*

   The configuration file on `mercury.swin.edu.au` ensures that you are prompted for a password and connected to your mysql account on the `mysql.swin.edu.au` server.

   For most users, your mysql username will be the same as your mercury username and your password will be your provided password.
   Press 'Enter' key after typing in your password.

   Your mysql password is not connected to your SIMS password or your mercury password.
   It is recommended that you *do not use* the same password for your mysql account, as later you will need to use your mysql password in PHP scripts.

3. You will arrive at the 'MySQL Monitor' or mysql command line client:
      `mysql> …`

4. Each student has been allocated a database to work on, named as `username_db`
   where `username` is **s<7-digit Swinburne id>**,
   for example, s1234567 and `s1234567_db`. Access your database as follows:
      `mysql> USE username_db;`
   You will receive a confirmation message "`Database changed`".

5. Now you are ready to create tables into your database.
      `CREATE TABLE cars .....;`

6. The MySQL manual can be found here: (Section 10 and 12 are what you need)
   https://dev.mysql.com/doc/refman/8.0/en/*... or see other simpler guides* ☺

7. You may find it easier to use the MySQL web interface called **phpMyAdmin** which is available at https://feenix-mariadb-web.swin.edu.au/

Task 1: Creating a table and entering data (7.5 marks)

Using your existing database '`s<7-digit Swinburne id>_db`', create a new table `cars` for a used car dealership.

Include the following fields in the `cars` table:
> car_id (AUTO_INCREMENT PRIMARY KEY),
> make,
> model,
> price, and
> yom (year of manufacture).

Enter at least 10 records into the table. Sample data is shown in the table below.

Make	Model	Price	Year of Manufacture
Holden	Astra	$14,000.00	2005
BMW	X3	$35,000.00	2004
Ford	Falcon	$39,000.00	2011
Toyota	Corolla	$20,000.00	2012
Holden	Commodore	$13,500.00	2005
Holden	Astra	$8,000.00	2001
Holden	Commodore	$28,000.00	2009
Ford	Falcon	$14,000.00	2007
Ford	Falcon	$7,000.00	2003
Ford	Laser	$10,000.00	2010
Mazda	RX-7	$26,000.00	2000
Toyota	Corolla	$12,000.00	2001
Mazda	3	$14,500.00	2009

Task 2: Querying the table (7.5 marks)

Write queries that return the following:
1. All records
2. Make, model, and price, sorted by make and model
3. The make and model of the cars which cost $20,000.00 or more.
4. The make and model of the cars which cost below $15,000.00.
5. The average price of cars for similar make. *Hint:* Use in-built SQL function AVG

> **To later change your MySQL password**, use:
>
> ```
> mysql> SET password=PASSWORD('newpwd');
> ```
>
> Where `newpwd` represents the new password you would like to use.
>
> **Remember** in later Labs and in Assignment 2, you will have to **include (encode)** your database **password** in **all** PHP files that will access the database.
> So **do not use** your SIMS or your mercury password, as your mysql password.