Lab 4 – Databases and MySQL

How to login to your MySQL account:

1. There are two methods to login to the **cmslamp14.aut.ac.nz** MySQL server:
   a. **General method:** Using PHPMyAdmin web application.
   Steps:
      i. Log into AUT distance service if out of AUT Intranet
      ii. Open browser and visit **http://cmslamp14.aut.ac.nz**
      iii. Click the 'PHPMyAdmin' button
      iv. Ignore the security warning by clicking the 'advanced' button then clicking the 'Proceed to cmslamp14.aut.ac.nz (unsafe)' url link
      v. Log in with your AUT credential
      vi. Click the 'SQL' Tab to input SQL commands, then click the bottom-right 'Go' button to execute these commends.

   b. **AUT Intranet only method:** Using 'HeidiSQL_8.3_Portable' client native application, which is available at in the 'Modules – Resources' section. *(Note that HeidiSQL does not work outside AUT Intranet such as at home, as the DBMS server port number is not open to the public.)*
   To access your MySQL account, please use the following parameters:

```
host: cmslamp14.aut.ac.nz
user: <your Blackboard username>
password: <your Blackboard password>
```

2. Each student has been allocated a database to work on, named as `your Blackboard username, e.g., 'jiyu'.`

Some example SQL commends:

1. `SHOW DATABASES;`
   you will see a list of databases and your database is also in the list

2. `USE <database>;`
   Select a database. You will receive a confirmation message "`Database changed`".

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

4. The MySQL manual can be found here: (Section 10 and 12 are what you need)
   http://dev.mysql.com/doc/refman/5.0/en/index.html *... or see week 4 lecture slides*

Task 1: Creating a table and entering data (5 marks)

Using your existing database, create a new table **car** for a used car dealership.

Include the following fields in the **car** table:

car_id *(use AUTO_INCREMENT PRIMARY KEY)*
make,

model,
price *(use INT type), and*
yom *(year of manufacture)*.

Enter at least 10 records into the table.

Make	Model	Price	Year of Manufacture
Holden	Astra	$14,000	2005
BMW	G71	$35,000	2021
Ford	Falcon	$39,000	2010
Toyota	Corolla	$20,000	2018
Holden	Commodore	$13,500	2005
Holden	Astra	$8,000	2001
Holden	Commodore	$28,000	2009
Ford	Falcon	$14,000	2019
Ford	Falcon	$7,000	2003
Ford	Laser	$10,000	2001
Mazda	RX-7	$26,000	2000
Toyota	Corolla	$12,000	2020
Mazda	3	$14,500	2007

Task 2: Querying the table (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 or more.
4. The make and model of the cars which cost below $15,000.
5. The average price of cars for a similar model. *Hint:* Use in-built SQL function AVG

Task 3: Download the demo code of Lecture 5 and make it work on your account (0 marks)

Note: although this task is not marked, it'll greatly facilitate your assignment tasks.

Extra Challenge

Launch the document-based Database MogoDB server and client on your lab computer and implement Task 1 and Task 2 using MongoDB.
(Reference: Lecture 4 slides)

Note: if MongoDB is not installed, it can be downloaded from https://www.mongodb.com/download-center?jmp=nav#community.