School of Computing and Information Technology
University of Wollongong

Session: **Autumn 2016**
Lecturer: **Janusz R. Getta**

CSIT115/CSIT815 Data Management and Security
Laboratory 5

Scope

This laboratory includes the tasks related to application of Data Manipulation statements and simple `SELECT` statements of SQL.

This laboratory consists of 2 tasks and specification of each task starts from a new page.

It is strongly recommended to solve the problems included in this specification **before coming to a laboratory class** and bring the preliminary solutions to a laboratory class such that any doubts, question, problems, etc can be discussed with a tutor in a laboratory class. Such procedure allows for more effective use of time spent in a supervised laboratory class.

Prologue

Download and unzip a file `laboratory5-all-files.zip`. You should get the files `Laboratory5.pdf`, `dbcreate5.sql`, and `dbdrop5.sql`. Copy the files to your USB drive such that you can access both files either through command line interface mysql or graphical user interface MySQL Workbench. You can also email a file `laboratory5-all-files.zip` to yourself such that you can access it on different systems. Finally, the simplest solution is to download the file directly to Ubuntu Linux from `http://www.uow.edu.au/~jrg/115/LABORATORIES/LABORATORY5`.

Connect to MySQL either through command line interface mysql or graphical user interface MySQL Workbench and execute a script file `dbcreate5.sql`. A script creates and loads data into the relational tables that contain information about the employees, drivers, administration people, trucks, trips, and trip legs. You may have to run the scripts `dbdrop3.sql` and `dbdrop4.sql` first to remove the sample databases used in Assignment 2.

Tasks

Task1 (1 mark)

Your task is to implement SQL script file `solution1.sql` that performs the database manipulation operations listed below. An important condition is that you are not allowed to alter and/or drop any consistency constraints during execution of the script !

(1) Insert into the database information about a trip performed by a new truck driver. A new driver obtains employee number 21. His personal record is the following.

Harry F. Potter, born 21st , November, 1984, living in Waga Waga, Railway Street 25, NSW 2767, driver license number 666, and his present status is "on leave". The driver performed a trip from Sydney to Melbourne on 10th, April 2016. The driver used a truck with registration number PKR768.

The trip consisted of the following two legs: the first leg from Sydney to Canberra and then the second leg from Canberra to Melbourne.

(2) A driver with an employee number 7 decided to quit a job. Remove all information about the driver and about all trips performed by the driver.

(3) A registration number of a truck with the present registration number `SST005` has been changed to `PKR856`.

When ready execute SQL scrip `solution1.sql` and save a report from the processing of the script in a file `solution1.rpt`.

Hint: You can find a lot of applications of database manipulation statements in the "Cookbook".

Deliverables

A file `solution1.rpt` with a report from processing of SQL script `solution1.sql`. The report MUST have no errors and the report MUST list all SQL statements processed.

A report that contains no listing of executed SQL statements scores no marks and report that contains errors also scores no marks !

Task 2 (1 mark)

Connect to MySQL either through command line interface mysql or graphical user interface MySQL Workbench and to refresh the contents of the sample database execute a script file `dbdrop5.sql` and later on `dbcreate5.sql`.

Implement the following queries as `SELECT` statements of SQL and save the statements in SQL script file `solution2.sql`.

(1) Find full names of employees living in states NSW or WA.
(2) Find full information about trucks that are not available just now.
(3) Find dates of all trips performed by a driver with license number 10001 who used a truck different from a truck with registration PKR768.
(4) List all information about the trips performed by the drivers with license numbers 10001, 10002, and 10003. List the result in the descending order of license numbers and for all trips with the same license number in the ascending orders of truck registration numbers.
(5) List full names of all employees in uppercase format in the descending order of last names.

When ready execute SQL scrip `solution2.sql` and save a report from execution in a file `solution2.rpt`.

Hint: You can find similar `SELECT` statement already implemented in the "Cookbook".

Deliverables

A file `solution2.rpt` with a report from processing of SQL script `solution2.sql`. The report MUST have no errors and the report MUST list all SQL statements processed.

A report that contains no listing of executed SQL statements scores no marks and report that contains errors also scores no marks !

End of specification