Laboratory Tutorial 8: More on SQL – Joins, DDL, DML and TCL

In this laboratory tutorial you will:

1. Construct more complex SQL SELECT statements to generate results tables that satisfy a range of given information requests
2. Create SELECT statements that join columns from two or more tables
3. Create a SELECT statement containing a sub-query
4. USE some DDL statements
5. Use some TCL statements

Preamble

In previous tutorials you gained experience in using some DML commands. If you have not successfully completed these tutorials, go back and do so now. In this tutorial you will gain experience in creating more complex SELECT statements and using some DDL and TCL statements. **We will continue to use SQLite.**

The Database that you will be using in this lab is called 'Property_Business' and can be downloaded from the resources folder on VLE (Go to VLE→DAT2→Practical→resources→Property_Business)**.** You are going to interact with the database to access to the tables to perform some tasks.

To find out the tables that are resided within the database, simply click on the database structure (top left corner in the SQLite). Note that all tables have primary keys and where applicable, foreign keys.

QUESTION 1:

Assume we have the left table - Tenant, and the right table - Rental. Create an INNER JOIN between these two tables, showing the attributes of: tenantID and tenantFName from the Tenant table; propertyNo and rentStart from the Rental table in your result. Display your result.

You need to clearly show us the commands that have helped you to reach your answer.

QUESTION 2:

Assume we have the left table - Property, and the right table - Rental. Create a LEFT JOIN between these two tables, showing the attributes of: tenantID and propertyNo from Rental table; propertyAddress and rentFee from Property table in your result. Display your result.

You need to clearly show us the commands that have helped you to reach your answer.

QUESTION 3:

Join the three tables: Tenant, Rental and Property. In your result, the following attributes should be shown: tenantID, propertyNo, and propertyAddress.

You need to clearly show us the commands that have helped you to reach your answer.

QUESTION 4:

Owner John Kent has changed his id to ow400. Write a statement to make this change in the database. **You need to clearly show us the commands that have helped you to reach your answer.**

You are required to show the evidence of such change in the corresponding tables.

QUESTION 5:

In the Tenant table drop the column tenantFName, and rename tenantLName to tenantName. **You need to clearly show us the commands that have helped you to reach your code.**

Display the table to show the changes that have been made.

QUESTION 6:

Write a subquery to show the properyNo, rentFee for the owner named Tim Cox. Display your result. **You need to clearly show us the commands that have helped you to reach your code.**

QUESTION 7:

For each rentStart (e.g., 1-July-94), list the tenant ID who rent properties, including their address and rent fee. **You need to clearly show us the commands that have helped you to reach your code.**

Display your result.

QUESTION 8:

Using the EXCEPT clause write a query to list all properties that exist but are not been rented. **You need to clearly show us the commands that have helped you to reach your code.**

Summary and future work

In this tutorial you have learned how to perform more sophisticated SELECT queries and use DDL AND TCL statements. You should continue to practice SQL by generating your own queries and action commands.

Further Reading

Databases Illuminated (Chapter 1, Sections 1.3-1.5 | Chapter 5, Sections 5.1- 5.7).