

COMP2714 - RELATIONAL DATABASE SYSTEMS

Assignment 02 – SQL DML Basics, Joins, Aggregates [Total: 50 marks]

Due NEXT DAY of your Lab in week Jan 25 (Thu) - Jan 30 (Tue), 2018

Due time to Assignment Box & D2L Dropbox:

Fri: 2A: 12:20 2D: 11:20

Tue: 2E: 10:20 2C: 11:20 2B: 12:20

- You are to work in **groups of two**.
- Assignments must be done using Oracle SQL*Plus.
- Make sure you save all your work in **.sql script files**, and keep backup copies of these scripts!!
[Refer to Lab01_sample.sql as illustrative example / template.]

Coding guideline for ALL assignments:

Otherwise 10% of the total marks will be deducted. (READ Lab01_sample.sql)

- **UPPER CASE** for all SQL reserved words, and **Mixed** or **Lower Cases** for names you defined.
- **Start each SQL clause on a new line; indent subsequent additional lines** of the same SQL clause; avoid use of long lines but appropriately break into multiple lines with proper indentation; **DO NOT** align code from the middle.
- **Use comments** to label your questions before code; **add explanation comments** before your code only if necessary. Do not interleave comment lines inside your SQL statement lines.
- Use **single quotes** for character strings and date values, **no quotes** for numeric values, and **NULL** keyword instead of ".

Some useful tips:

- Remember to **SET ECHO ON & SET TAB OFF** in your SQL*Plus environment, so that your script file content will be included in your spool output file without added tabs. Make sure **SPOOL OFF** is included at the end of your script so you will not lose output.
- Include **ALTER SESSION** to set DATE format to 'YYYY-MM-DD'.
- Check out (on the Internet) some Oracle built-in functions such as **TO_DATE**, **TO_CHAR**, **TO_NUMBER**, and **String Concatenation**, etc. as these may come in handy.

Assignment submissions:

- You have to submit (1) to Paper Dropbox a **printed copy** printed from Word .docx formatted SPOOL output file, and (2) to D2L **both electronic copies** of the SPOOL file: **.docx** and **.txt**. It is **NOT** considered submitted without the printed copy!
- For **ALL** copies, label each answer clearly with the proper question number as comment; otherwise, 10% of the total marks will be deducted. For queries, include each query result output immediately after each query answer code.
- For the printed copy, **NO cover page** required; include Lastname(s), Firstname(s), student number(s), course number, assignment number and set letter at the beginning as comments (See Lab01_sample).
- The printed pages should be **STAPLED upper-left corner**, printed only with **black ink/toner** on **white** paper [no grey or other colors please]. Print with **FIXED-size font type** like **Courier New**, with **font size 12** or greater. Otherwise, 10% of total marks will be deducted.
- If a result output is too long, you can just keep the first 2 rows and delete the rest of that result set output before printing.

- For the soft copy spool file **.docx** and **.txt**, submit it to D2L dropbox for one of the partners in the pair. Make sure you submit to the proper dropbox; otherwise, it will be treated as NOT SUBMITTED. Only **one copy is to be submitted** for both partners, and your **.docx** and **.txt** spool file should be named **Asn2_<LastName1><Initial1>_<Lastname2><Initial2>.txt** or **.docx with both partners' names**.

Given the following database relations schema, use a **single SQL** statement to provide the information required by each query question 1 to 10:

(**Note:** you can run the script Asn2SetupHotels.sql to create the database tables with some sample data; **NO need to print this!!**)

Hotel (hotelNo, hotelName, hotelAddress)

Room (roomNo, hotelNo, type, price)

Guest (guestNo, guestName, guestAddress)

Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)

For the purpose of this assignment, do not use subqueries!!

Queries from Connolly & Begg textbook 6/e, p.182:

(If you have questions, ask your instructor early. Do not over-spend your time per question.)

NOTE: Expression to determine if a Booking row contains the current date:

dateFrom <= DATE'2018-01-29' AND

(dateTo IS NULL OR dateTo >= Date'2018-01-29')

For each question, start with the question statement in the textbook, then combine it with the additional requirements stated below to form one final question.

- (6.10 - 5 marks) For all hotels in London, list hotel name, hotelAddress, room type and price of all Single, Double or Family rooms with a price below 100.00 per night, in descending order of hotelName, ascending order of price and descending order of type. List each result entry only once.
- (6.11 - 5 marks) List the Vancouver hotel bookings for which no dateTo has been specified. List the hotelName, hotelAddress, room number, dateFrom and dateTo. Note: Hotels in West and North Vancouver should be excluded.
- (6.13 - 5 marks) What is the average price of a room for each hotel? List it with the hotelName and in hotelName order.
- (6.14 - 5 marks) Do this for each hotel and in one single query. List the total revenue with the hotelName, and only if the total revenue is between \$500 to \$1000 [in SQL context]. List in hotelName order.
- (6.16 - 5 marks) List the type and price of all rooms at the hotels with 'Grosvenor' in name, including the number of rooms for each combination of type and price. List only if the number of rooms for each type and price combination is greater than 3.
- (6.17 - 5 marks) Include the roomNo in the output. Use 2018-01-29 as the current date.
- (6.19 - 5 marks) Do this question for each of the hotels with 'Grosvenor' in name. Use 2018-01-29 as the current date.

8. (6.19 - 5 marks) What is the total income for each room type from bookings for each hotel (listing hotel names, not just hotelNo) today?
Use 2018-01-29 as today's date. List in ascending order of hotel name and room type.
9. (5 marks) List the new hotels that are still under construction, i.e. no room data in the database as yet for these hotels.
10. (5 marks) What is the percentage of hotels still under construction? List the total number of hotels, number of hotels completed, the number of hotels under construction, and the percentage of hotels under construction. (**NO SUBQUERY; use OUTER JOIN.**)