

COMP2714 - RELATIONAL DATABASE SYSTEMS
Assignment 1 – SQL DDL, DML Update [Total: 50 marks]
Due 10:30 next day of your Lab in week Jan 18 (Thu) - Jan 23 (Tue), 2018

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.]

Assignment submissions must be clearly labeled with identification details, printed black ink on white paper, stapled and submitted to the designated locations; otherwise marks will be deducted. See submission requirement details below.

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 indentation; use appropriate white space to improve readability.
- Use comments to label your questions, add notes and explanations where appropriate before your code. Do not interleave.
- Use single quotes for character strings and date values, no quotes for numeric values, NULL keyword instead of ''.

Some useful tips:

- SQL script files are just plain text file; use notepad to create and edit them; take a copy of the sample script and modify.
- Remember to SET ECHO ON in your SQL*Plus environment, so that your script file content will be included in your spool output file. Make sure SPOOL OFF is included near the end of your script file so you will not lose output.
- Check out (on the Internet) some Oracle built-in functions such as TO_DATE, TO_CHAR, TO_NUMBER, DUAL, etc.

You have to submit BOTH a printed copy and a soft (electronic) copy of the SPOOL output file, with file extension .txt (unless otherwise determined by your lab instructor); assignment is NOT considered submitted without the printed copy!

- Questions must be answered in question order; label each answer with the question number comment; otherwise, 10% of the total marks will be deducted. For queries, include each query result output immediately after each query answer.
- For the printed copy, NO cover page; include both LASTnames, FIRSTnames, student numbers, course number, assignment number and set letter at the beginning as comments. Otherwise, 10% of total marks will be deducted.
- Print only with FIXED-SIZE font type like Courier New with font size 12 or greater, and print only with BLACK ink/toner on WHITE paper; no grey or other colors please. Otherwise, 10% of total marks deducted.
- For the soft copy spool file, submit it to D2L dropbox for one of the partners in the pair. Make sure you submit it to the proper dropbox; otherwise, it will be treated as NOT SUBMITTED. Only one copy is to be submitted for both partners, and your spool file should be named Asn1_<LastName1><Init1>_<LastName2><Init2>.txt with both partners' names.

Questions: (Connolly & Begg textbook, p. 220 and p. 183)

Answer questions separately and in order as given here. Do NOT inter-mix answers, or else 20% of marks deducted.

Questions are based on the textbook questions, with contextualization and modifications.

Given the following Relations Schema: (Primary key column(s) are underlined, decide on the required foreign keys.)

Hotel (hotelNo, hotelName, city)
Room (roomNo, hotelNo, type, price)
Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)
Guest (guestNo, guestName, guestAddress)

- 1) (5 marks) Write the DDL statement to remove all 4 tables, plus the OldBooking archive table.
[Hint: Take note of the deletion order of these tables; think about which ones should be deleted first.]
- 2) Create the Hotel (from Q.7.10 - 3 marks) and Room (7 marks) tables with all relevant integrity constraints, including:
 - a. type (Room table) must be one of Single, Double, or Family.
 - b. price (Room table) must be between \$10.00 and \$100.00.
 - c. room number (Room table) must be between 1 and 100.
- 3) Create the Guest (from Q.7.11 - 3 marks) and Booking (7 marks) tables with all relevant integrity constraints.
(Ignore Q.7.11 parts d, e and f)
- 4) Insert 3 rows of sample data to each of the 4 tables. (from Q.6.27 - 6 marks total, 1.5 marks for each table)
[Hint: Note the foreign key requirements to determine which rows should be inserted first. Careful use of quotes ' '.]
- 5) (7 marks total, 3 marks for a. and 4 marks for b.):
 - a. The hotels now have a new room type 'Deluxe'. Modify the check constraint to allow for this.
 - b. Need to offer discounts. Add column 'discount' to the Room table, with default value of 0 (percent), max. value of 30.
- 6) (6 marks, 3 and 3 marks for a. and b.):
 - a. One of the hotels (pick any one) increases the price of its 'Double' room type by 15%. Implement this change.
 - b. One of the booking guest decided to arrive on an earlier date and stay till a later date. Modify the booking accordingly.
- 7) a. Create an OldBooking table to archive / move data rows from the Booking table (from Q.7.12 - 2 marks).
[Hint: Think carefully about needed and unnecessary constraints (PK, FKs, CHECK, etc.) for OldBooking.]
b. Using the INSERT statement, copy the rows with dateTo before 2018-01-15 from the Booking table to the OldBooking archive table (from Q.7.12 - 2 marks).
c. Then delete from Booking all booking rows with dateTo before 2018-01-15 (2 marks).