

COMP2714 - RELATIONAL DATABASE SYSTEMS
Assignment 1 – SQL DDL, DML Update
Due at START of your Lab in week Jan 18 (Mon) - Jan 21 (Thu), 2016

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!!

Coding guideline for ALL assignments: Otherwise 10% of the total marks will be deducted. (see 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; use white space to align code to improve readability.**
- **Use comments to label your questions, add notes and explanations where appropriate.**
- **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, the DUAL table, String Concatenation, etc. as these may come in handy.

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):

- **For BOTH copies, label each answer clearly with the proper question number as comment; otherwise, 10% of the total marks will be deducted.**
- **For the printed copy, NO cover page is required; include your name(s), student number(s), 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 10 or greater, and print only with BLACK ink/toner on WHITE paper; no grey or other colors please; else 10% of total marks deducted**
- **For the soft copy spool file, submit it to sharein I:\COMP\2714\Day\Asn01\2<set> where 2<set> is the subfolder for your set. Make sure you submit to the proper subfolder for your set; otherwise, it will be treated as NOT SUBMITTED. Your spool file should be named Asn1_<LastName><FirstInitial>.txt. Include both partners' names.**

Questions: (Connolly & Begg textbook, p. 220 and p. 183) - see next page for questions detail due to textbook unavailability

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 modifications.

Given the following database tables required: (**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: Take note of the foreign key requirements to determine which rows should be inserted first.]
- 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 hold archive data rows from the Booking table (from Q.7.12 - 2 marks).
 - b. Using the INSERT statement, copy the rows with dateTo before 2016-01-01 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 2016-01-01 (2 marks).

Total 50 marks

Asn1DDLUpd.doc

Due to the unavailability as yet of the Connolly and Begg textbook, Database Systems 6/e, in the bookstore, I am including the assignment related questions in the following section for your reference:

p.220, Chapter 7, Exercises:

- 7.10 Create the **Hotel** table using the integrity enhancement features of SQL.
- 7.11 Now create the **Room**, **Booking**, and **Guest** tables using the integrity enhancement features of SQL with the following constraints:
 - (a) **type** must be one of Single, Double, or Family.
 - (b) **price** must be between £10 and £100.
 - (c) **roomNo** must be between 1 and 100.
 - (d) **dateFrom** and **dateTo** must be greater than today's date.
 - (e) The same room cannot be double-booked.
 - (f) The same guest cannot have overlapping bookings.
- 7.12 Create a separate table with the same structure as the **Booking** table to hold archive records. Using the INSERT statement, copy the records from the **Booking** table to the archive table relating to bookings before 1 January 2013. Delete all bookings before 1 January 2013 from the **Booking** table.

p.183, Chapter 6, Exercises:

- 6.27 Insert rows into each of these tables.