**SQL – Relational Assignment**

Before you begin please do the following:

1. Watch the video lecture posted. Many of the commands I will show you on the video.
2. You can also look at the SQLCheatsheet tab for many of the common SQL commands.
3. The below exercises corresponds to the lecture titled Relational Model.

**Submission:** You will need to submit all SQL code (and anything else asked for) to the folder titled SQL Primary Keys and More.

**I Primary Keys / Foreign Keys / Default**

***Bring up your previous 2 assignments with the sql code:***

1. Write the statements to remove **(drop)** the previous tables: Booking and Guest.
2. Write new CREATE TABLE statements to create Booking and Guest, but this time also include the below (Note: modify the 2 statements from the SQL Basics assignment):
   a. A **primary key** for **each** of the tables. *Hint: One of them is a composite key!*
   b. A **default** price in table Booking should be set to 500.
   c. **Foreign keys** where appropriate*: guestNo in the Booking table must refer to guestNo in the Guest table.*

   **Note: When running multiple sql statements you need semicolons (;) separating them. Otherwise run them one at a time.**
3. Rerun your insert statements (from the previous 2 weeks' assignments) to insert the rows you did before in the tables. Did they work (yes or no)? If not, explain what happened and fix your errors (paste only the updated inserts below).
4. Primary Keys cannot be NULL. Write the SQL statement to insert a row into the Guest table where the guestNo is NULL. *Note: Yes, specify the word NULL instead of a number.*
5. Describe what happened. Was there an error? If so, paste it.
6. Write the SQL to insert a row into Guest where the guestNo is 101.
7. Describe what happened. What was the error?
8. Write a statement to insert into a new row into Booking for an existing guest and **do not** specify the price.

   *Note: In the insert specify the columns that you do want to add.*
9. Check out what value got entered into the price. What happened? Paste the results of a select * from Booking.
10. When you run the same command from #8 again what happens? What error message do you receive?

11. Write a statement to insert a new entry into the Booking table, but use a guestNo that is not currently in the Guest table.
12. What happened? What error did you receive?

II **Create another Table**

Since booking guests was so successful you decide to purchase additional properties to sublet.

**1.** Please write the correct statement to create the following table, choose a **primary key**:

   a. Property with the following fields:
      i. *propertyNo (*a unique integer)
      ii. *address*
      iii. *city*
      iv. *state*
      v. *zipcode*
      *vi. phone*

**2.** Insert into the above table 3 rows. The first is propertyNo 1 which is the address info for your current place that you have been subletting in the previous assignments (you can use any address of your choosing). Insert 2 more addresses with property numbers 2 and 3, for the two new rooms you purchased.
**3.** Paste the results of select * from Property.

**III Alter**

1. First, write a statement to insert into Property a new entry with unique id 4 without specifying a phone number. You will need to specify the columns you are inserting values into.
2. What happened? What do you see in the *phone* attribute for that row in the table?
3. Write the statement to alter the table Property to specify a default phone number. Remember you will need single quotes around the number.
4. Write a statement to insert another row into Property with id 5 without specifying a phone number.
5. What happened? What is now in the phone column? Paste the results of a select * from Property.
6. Write the statement to drop the attribute *phone* from the Property table.
7. Paste the result of select * from Property.
8. Write **one** statement to alter the table Booking to add a column, propertyNo, which:
   a. is an integer representing the propertyNo for each booking
   b. is a foreign key to the propertyNo in the Property table
   c. has a default value of 1 (i.e., your previous rental that all guests were subletting).

9. Paste the result of Select * from Booking. Check out the propertyNo attribute. What happened?
10. Guest 104 would like to sublet one of your new properties, property number 2 from June 1, 2019 until June 30, 2019 for a price of 650. Write the insert statement.
11. Paste the results of a select * from Booking.
12. Write another insert statement to insert a DIFFERENT date for 104 to rent a new property. But this time for a property number which does **not exist** in the Property table.
13. What error did you receive? Paste the error.

Short Discussion Questions:

1. What have you learned about foreign keys?
2. What have you learned about primary keys?