DBMS-1002  
Assignment 3

# Instructions

### For each question below: read carefully what is being asked and create an SQL Query which answers the question. Note that it is sometimes possible to misinterpret the meaning of a question. When in doubt, please clarify with your instructor before handing in your assignment.

# Grading

Your instructor will review your assignment with you for completeness and comprehension. This review will be done on an individual basis and you will be asked questions

| Q | Level 1 | Expected Result |
| --- | --- | --- |
| 1 | **Create** your own **table** with a minimum of 3 columns.  You must use at least 3 different kinds of data types. Example: VARCHAR(50), NUMERIC(5,2), etc.. You must declare a Primary Key using an out-of-line constraint. Be sure to add a **Drop Table** at the top as well. Note: You **cannot** use any of the tables/columns used in the class slides or the demos. Your table/columns should be relatively unique (we understand some common column names will be re-used). If you have the same table/column names as another student, that will be considered to be **plagiarism**. | Table TableName created. |
| Q | Level 2 | Expected Result |
| 2 | Using your table from question 1:Create a minimum of 4 **INSERTS**.On one of your **INSERTs**, do not specify all of your columns.Be sure to write a comment above the **INSERT** with less columns and explain what is missing in a full English sentence. You should write a simple **SELECT** after your **INSERTs** to see the new data. | 1 row inserted.1 row inserted.1 row inserted.1 row inserted. |
| 3 | Using your table from question 1:Create an **UPDATE** statement that changes 3 or more columns.Only 1 row should be updated..You should write a simple **SELECT** after your **UPDATE** to see the new data.Create a **DELETE** statement. This statement should only remove 1 row.Write a comment above each statement to describe what is happening in a full English sentence.You should write a simple **SELECT** after your **DELETE** to see that the data is now gone. | 1 row updated.SELECT result1 row deleted.no rows selected |

| Q | Level 3 | Expected Result |
| --- | --- | --- |
| 4 | **Create an ERD based on the following business rules regarding Planes and routes.** Using the following link to to learn how diagrams.net [**https://tinyurl.com/y6owbf97**](https://tinyurl.com/y6owbf97)) can help you create an ERD. You must label each relationship line with a verb and use the appropriate cardinality symbols.  Be sure to label PRIMARY and FOREIGN KEYs and all column names.  **Note: You do not need datatypes in your ERD.** **Business Rules:** A route will not happen without a **plane**. The same **route** happens with different **planes** over time.A **plane** does not have to **fly** a **route**. A **plane** can **fly** on many different **routes**.The following rules will be used in Question 5 as well.  We can describe a **Route** with the following attributes and conditions:**Routing ID**: A 6 digit series of numbers and letters. It is *never* less or more than 6.**Length Of Route**: The number of approximate hours a flight should take on this route. This number is *optional*, but when present it *must* be a positive number less than 20 hours.**Departure City Name** and **Arrival City Name**. These names are *required* and are *85 characters or less*. Random fact:Fun fact: The largest city name in the world is… [*Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogogoch*](https://www.youtube.com/watch?v=b9DcTKtSES8) in New Zealand.   **Continued next Page…**We can describe a **plane** with the following attributes and conditions:**Plane serial number**: An *up to**10* digit series of numbers.**Plane name**: Is *required* and is *up to 100* characters in length.**Fuel capacity**: An *optional* number representing the number of litres of fuel the plane can hold.  This value can have *2 decimals* and must be large enough to contain the largest plane’s fuel tank which is just over 300,000 litres.  (Note: there are no specific rule restrictions for fuel capacity other than defining the appropriate data type) When a plane flies a route, we must know two additional attributes: **Departure Date** and **Arrival Date**: Both are dates indicating a year, month and day.  These dates are both required. Arrival Dates *cannot* happen before departure dates. | Entity Relationship Diagram File |
| 5 | **CREATE** the **tables** and any **CONSTRAINTS** specified for the Routes & Planes business rules above.Create one valid INSERTs on each table. Create INSERT statements to violate…one of the NOT NULL constraints,one of Foreign Key constraint,Any two of the Check constraints.You must write a comment above each failing **INSERT** and describe what is being tested.For example, if you had the follow Table with column constraint:**CREATE TABLE** ExampleTable (  **Name VARCHAR(50)** **NOT NULL**  );**-- The following INSERT will violate the NOT NULL****-- constraint on the Name column.**  **INSERT INTO** ExampleTable (Name) **VALUES** (**NULL**); |  |

# Assessment

You will be assessed based on an interview with your instructor.

# Hand-in

In this assignment you will create a new .SQL and an ERD file. Please rename your files to follow the format: ***assignment#\_firstname\_lastname.sql***

For Example: ***assignment3\_SQL\_scott\_wachal.sql,***  ***assignment3\_ERD\_scott\_wachal.pdf***

Use the appropriate LEARN DropBox to upload your files. If you need to upload a newer version, you may do so before the deadline, but only the newest copy will be graded by your instructor.