

## CSC 355 Database Systems 402

### Assignment 2 (9/23)

**Due 11:59:00pm, Monday 9/30.**

**Reading:** The posted Lecture 3 and Lecture 4 Slides, and Ullman/Widom Sections 2.3, 6.5, 7.1-7.3, and 6.1. [Next week: Ullman/Widom Sections 6.2-6.4.]

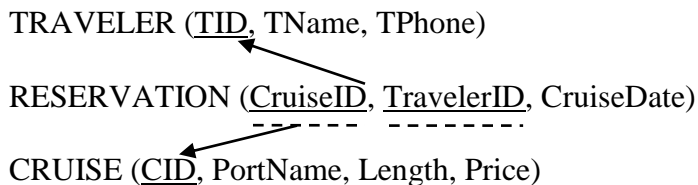
Your task in this assignment is to write a script to create a small database, consisting of three tables.

#### Steps:

Write a script to do the following. (Do this one step at a time, testing the partial results by inspecting the tables in SQLDeveloper. Do not go on the next step until you have the previous step working.)

1. Define the following database, similar to the example database from Assignment 1:

TRAVELER (TID, TName, TPhone)  
RESERVATION (CruiseID, TravelerID, CruiseDate)  
CRUISE (CID, PortName, Length, Price)



The traveler IDs should be exactly three characters long, and the phone numbers should be exactly ten characters long; you may choose an appropriate maximum length for the traveler names. The cruise IDs should be exactly two characters long, and you may choose an appropriate maximum length for the port names. Each cruise length should be a positive integer (i.e., zero is not allowed) with at most two digits, and each cruise price should be a non-negative integer (i.e., zero is allowed) that is at most 9999.99. The cruise dates should be stored as date objects (using the DATE keyword or the to\_date function), not just as character strings.

Define the primary keys and foreign keys as indicated in the schemas above. (This means that you will have to create TRAVELER and CRUISE before RESERVATION.)

In order to avoid name conflicts, start your script file with DROP TABLE commands for all three tables (since RESERVATION contains foreign keys, you will have to drop it first). Run your script and look at the columns and constraints of each table to verify that they have been created correctly before going on.

2. Populate the CRUISE table with IDs, ports, cruise lengths, and prices for at least three cruises offered by the company. (Choose ports you would be interested in visiting – you can make up the IDs, lengths, and prices.) Then populate the TRAVELER table with information for yourself and at least two of your friends. (You can make up the IDs and the phone numbers – and even the friends if you’d like.) Look at the data in each table to verify that they have been populated correctly.

3. Next, insert at least five records into the RESERVATION table. There should be at least one record for each traveler, and at least one traveler must have two or more records in the RESERVATION table. Choose your data so that each customer is only booked on one cruise at a time – that is, a customer’s next cruise shouldn’t start until the previous one has ended. (This particular constraint – insuring that

cruises do not overlap by checking the cruises' starting dates and lengths – is too complicated for us to implement in our code right now.)

4. Display the contents of each table by adding three commands of the form `SELECT * FROM TABLENAME ;` to the end of your script file. Run the complete script and save the complete contents of the output window, including the displayed tables, to a text file. (Clear the window first so that only the output of the last run of your script is displayed and saved.)

5. Include a comment at the top of your script file giving your name, the course number and your section number, the assignment number, and the date of submission, e.g.:

```
/*  
  YourName  
  CSC 355 Section 402  
  Assignment 2  
  SubmissionDate, 2019  
*/
```

6. There are two files to submit for this assignment. Submit both (1) your .sql script file and (2) the text file containing the output generated by running your script to the Assignment 2 submissions dropbox.

#### **Remarks:**

1. There are actually tools in SQLDeveloper that allow you to construct tables without writing your own CREATE statements; they can also automatically generate SQL code that would build the tables you have constructed using the tools. Do not use these tools (or any other code generation tools) to complete the assignment; you must write the CREATE statements to create the tables yourself and include the CREATE statements that you have written in your script file.

2. It is your responsibility to make sure that the files you have uploaded are readable and in the correct locations. You should check that you can successfully download them from the submissions dropbox after submitting them to be sure that they have been uploaded correctly.

3. Please remember that all work must be completed individually and without copying, either entirely or in part, from any examples I have posted or from anyone else's work.