CS3431-A19: Project Description
Building a Database Application
Phase 2: Views, Triggers, and Procedures

Due Date: Sa 9/28 at 11:59pm. No late submissions!

Teams: The project is to be done in teams of two

Submission: Make sure to include both of your names on the project submission. Only one student is to submit the assignment so be certain to determine who that will be in advance. The SQL code should be in a file named project2.sql and NOT include the SQL commands from project2start.sql.

Description:

Run the project2start.sql file to create the tables and sequences for this project phase. You do NOT need to create efficient queries for this assignment.

1. Modify your table data from Project Phase 1 and enter it into the tables created by the project2start.sql script.
2. Create a view named MatchingBloodTypes that lists the count for every combination of organs and patients that have the same blood type. Display the organ type, blood type and the number of patients that match along with subtotals. List in alphabetical order by organ type and then by blood type. Create a query to display the results of MatchingBloodTypes.
3. Using theta joins, create a procedure named "SurgeonOperations" that takes a surgeon's name as an input and displays the number of operations that the surgeon has performed. The output should look like the following example:
   Dr. Jane Smith: 4 operations

   Research how to handle a NO_DATA_FOUND exception so if a non-existent surgeon is entered the following error message is given with an input of John Smith:
   There is no surgeon who has operated with the name of Dr. John Smith

   Create your procedure in parts so it is easier to debug and make sure to test your procedure on various inputs. If you use the command line on the server, run the following so you can see the output:
   sql> set serveroutput on;

Create the following triggers:
4. Create a trigger named InsertErrorBirthDates that **displays an error message** if they apply to the new records to be inserted into Patient if the birthdate is after the current day
5. For new operations, display an error message if the patient's blood type does not match the organ's blood type in an operation. **Name the trigger BadBloodType.**
6. After an operation is inserted, change the field isSuccessful to 'F' if the patient's blood type does not match the organ's blood type in an operation for all records in the table. **Name the trigger FailedOperation.**
7. Display an error message if a new operation involves a patient and surgeon pairing that does not exist in the SurgeonPatient table. **Name the trigger NoMatch.**

   You will want to insert records to test the triggers above but do NOT include these SQL insert statements in the submitted assignment. We will test your code on our data.