The University of the West Indies

St. Augustine

Department of Computing and Information Technology

COMP2700 – DATABASE MANAGEMENT SYSTEMS 1

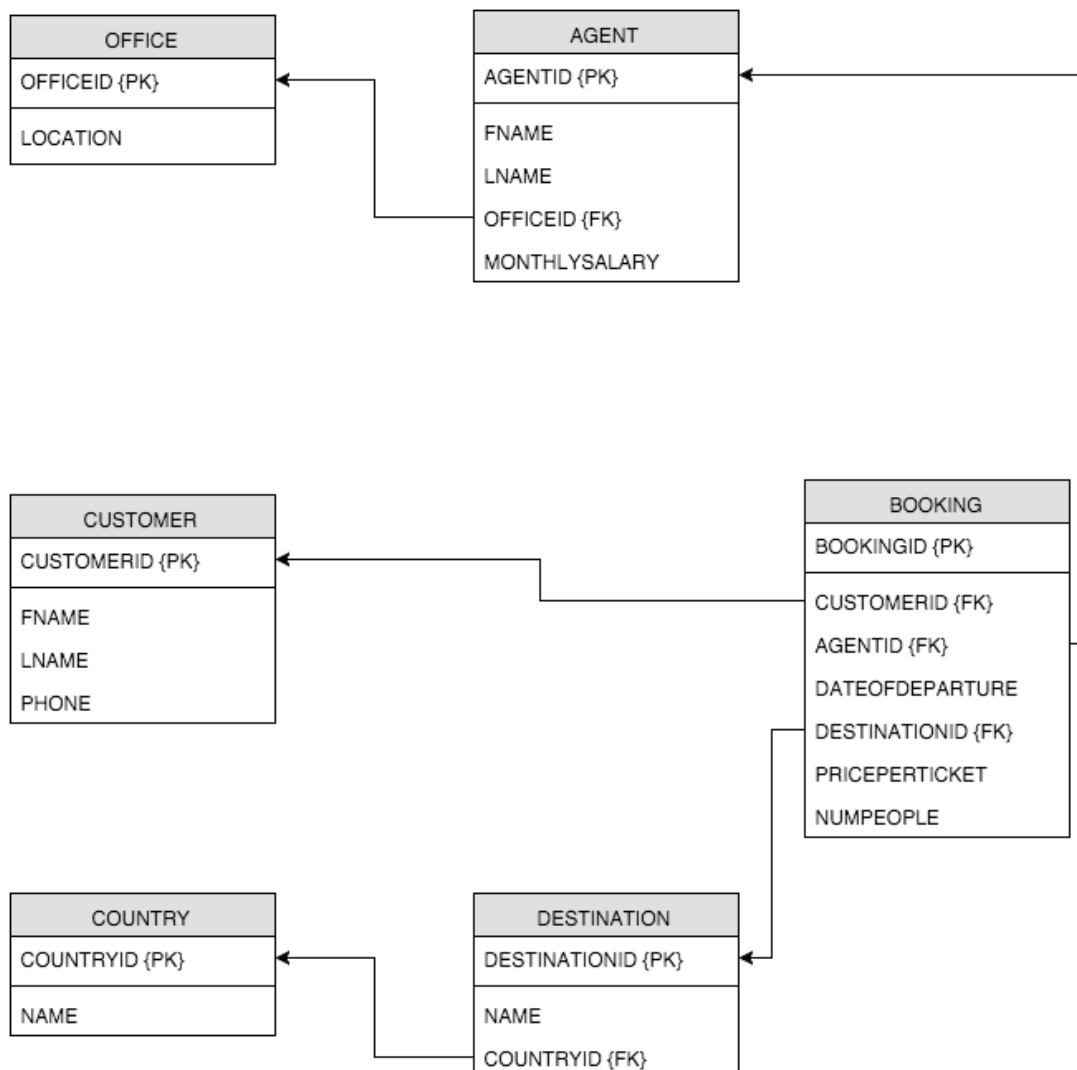**Lab Exam**

DATE : 4th November 2015

DURATION : 1 hour 50 mins

Instructions:

1. All of your solutions to the exam are to be stored in a single SQL file named using your ID number. For example, if your id number is 1234567, then you should name your SQL file with your solutions 1234567.sql. You may submit multiple versions of your solutions, naming your submissions other than your first by naming it <id number>v<version number>.sql. For example, if your id number is 1234567, and your submitting your second version, name it 1234567v2.sql.

2. You are to use the UWI network installation of Oracle to complete this exam. To login, go the address 192.168.81.81:8080/apex. Your username and workspace is your c<id>and your password is c<id>. For example, if your UWI ID is 1234567, then your username is c1234567, your workspace is c1234567, and your password c1234567.

3. Your questions should be numbered using the appropriate comment tags

4. Save every 5 minutes to ensure no loss of your solutions.

5. All cellular phones are to be switched off and their is to be no communication between yourself and any other student during the exam.

6. Guidelines for submission can be found at the end of the exam.

7. Answer ALL Questions. The exam comprises 17 questions for a total of 50 marks.

The following relational schema represents a portion of the relational database for a travel agency: Go-tons-of-places Ltd. This portion of the database stores information about agents at the agency, customers, the countries and destinations therein that they offer packages to, and bookings.

OFFICE

OFFICEID {PK}

LOCATION

AGENT

AGENTID {PK}

FNAME

LNAME

OFFICEID {FK}

MONTHLYSALARY

CUSTOMER

CUSTOMERID {PK}

FNAME

LNAME

PHONE

BOOKING

BOOKINGID {PK}

CUSTOMERID {FK}

AGENTID {FK}

DATEOFDEPARTURE

DESTINATIONID {FK}

PRICEPERTICKET

NUMPEOPLE

COUNTRY

COUNTRYID {PK}

NAME

DESTINATION

DESTINATIONID {PK}

NAME

COUNTRYID {FK}

TASKS:

1) Using SQL, calculate the value of the expression (10 - (2 + 4 * 3)). [1 mark]

2) Create a sequence TestSeq, that starts with the number 100000 and decreases by 1 [2 marks]

3) Create the table SeqTestTable with the following specifications [1 mark]

Attribute	Specifications
TESTID	NUMBER, SIZE : 6; PRIMARY KEY

4) Using TestSeq to generate the primary key, insert 5 rows into SeqTestTable [1 mark]

5) Run the script initLocations.sql to create and populate the COUNTRY table [1 mark]

6) Create the table DESTINATION, with the following specifications: [2 marks]

Attribute	Specifications
DESTINATIONID	VARCHAR2, SIZE: 5; PRIMARY KEY
NAME	VARCHAR2, SIZE : 10
COUNTRYID	VARCHAR2, SIZE: 5; FOREIGN KEY (WRT TO COUNTRY TABLE)

7) Run the script popTables.sql to populate the DESTINATION table, and to create and populate the OFFICE, AGENT, CUSTOMER, and BOOKING tables [1 mark]

8) Write a query that displays the full name of all agents working in Port-of-Spain under a column named "FULL NAME". [2 marks]

9) For all bookings that have a valid price value, display the ids of the customers who made the booking, as well as the id of the destination booked. [2 marks]

10) Create a view called TOTALCUSTOMERBOOKING that displays the BOOKINGID, the full name of the customer that made the booking under the column alias "FULL NAME", and the total price of the booking for all bookings that have a price [3 marks]

11) Write a query that displays the booking id and the id of the agent that made the booking for all booking made in 2014. [2 marks]

12) Display the ids of all customers who made bookings, ensuring that an id appears ONLY once. [2 marks]

13) For every agent, display the agent's id and the total number of booking that they made. Ensure that the results are displayed such that the agent made the most bookings is displayed first. [4 marks]

14) For every destination that has a booking, display its name and the total of all ticket sales to that destination, ensuring that the destination with the highest sales is displayed first. [5 marks]

15) Display the full name of every agent (under the heading "FULL NAME"), their monthly salary, and the location of the office where they work for every agent who makes above the average salary for their office. [7 marks]

16) To the CUSTOMER table, add a new column DATALASTUPDATEDON with the type DATE, and the default value being the current date. [3 marks]

17) Create a trigger, ACKNOWLEDGE_UPDATE, that sets DATALASTUPDATEDON in the CUSTOMER table to the current date once an update has been made to it. [10 marks]