Database Systems and Applications (IS F243)
Second Semester 2012-2013
Lab-4 Exercise Total Marks- 08 Duration: 120 mins
To study Nested Queries and Joins

Instructions

1. Read the instructions to connect to the mysql server.
2. Write and execute the SQL queries for following questions.
3. Write the correct answer (SQL query/short answer) on moodle under the title "Questions for Lab 4"
4. Do not copy & paste the warnings/errors. In case of error as your answer write that in your own words.

Description of Railway Database System

The system is concerned with the reservation of railway tickets to the passengers. The system contains information about trains, passengers and tickets based on the following requirements. There are three trains namely Konkan Kanya, Matsyagandha, Mandovi to go from Madgaon(MAO) to Mumbai Chatrapati Shivaji Terminus (CSTM) and two trains namely Netravati and Jan Shatabdi Exp to go from CSTM to Madgaon with unique train codes. Netravati runs only on weekdays and Mandovi runs only on weekends. The detail of all halting stations and their relative distance (in kms) from Madgaon station is also stored. Assume there is only one route. Also assume that all trains halt at only eight stations between Madgaon and Mumbai CSTM. All trains have only four classes viz; firstac, secondac, thirdac and sleeper class. Each class has one to four coaches. Each coach has maximum 75 available seats. The passenger fills all his/her and co-passenger details like name, age, gender in a form and submit to the reservation counter (RC). The staff at RC checks for the seat availability on the date of journey and accordingly issues the ticket to the passenger by giving Passenger Name record (PNR): a unique identifier. The staff also notes the status of the ticket like confirm or waiting along with compartment no, seat no if confirmed and total fare. One passenger can book the ticket for more than one co-passenger with same PNR. Total fare of a ticket depends upon the number of passengers travelling in a ticket, class of train, distance between source and destination and age discount if any. The class fare for all trains is calculated with respect to sleeper (SL) class fare which is fixed Rs 37/- per 100 k.m. for all trains. firstac fare is 6.2 times SL fare, secondac fare is 3.7 times SL fare, thirdac fare is 2.7 times SL.

Write single SQL query to do the following. (Use nested query or joins only)

1. List the customers (cid) who have ordered at least two books. **[0.5M]**

2. List the customers(cid) who have ordered less than 4 copies. **[1M]**

3. List the trains (train name and arrival time) running between Mumbai CSTM and Madgaon starting and reaching on the same day. Display in the increasing order of arrival time. **[0.5M]**

4. Rahul has to finish his office work at Madgaon by 7:00 p.m. on Saturday and attend a meeting in Mumbai CSTM at 9:00 a.m. on next day. He takes half an hour to reach both the workplaces from the station. Suggest him a proper train. **[1.5M]**

5. Suman wants to know the second last halting station of her journey. Her PNR is 103. **[2M]**

6. Calculate the fare for ticket with PNR 101. **[0.5M]**

7. Print the ticket with PNR 101 with following details. **[2M]**

PNR, passenger name, age, gender, date of boarding, source station name, destination station name, class, coach no, seat no, berth, total fare