CS 348 - Project 1

Play with SQL!
(100 Points)

Fall 2019

Due on:

Note: There will be a 10% penalty for each late calendar day. After five calendar days, the Project will not be accepted.

Given below the relational schema about the details of a Railway System database, use SQL queries to provide answers to the questions asked:

Note:

1. The schema definition of the tables and sample test data are provided in ***create.sql*** and ***data.sql***, respectively.
2. You may test your queries against the sample records given in data.sql, but we will use different data for grading. You may add/modify the sample data to test your queries for corner cases.
3. Do not use PL/SQL for this project, use only the main SQL construct for all questions(nested / subqueries are allowed).

Write SQL queries for the following queries using the following Railway Database:

Stations(**Stn_ID**, *Stn_Name*, *City*, *State*)

Trains(**Train_ID**, *Train_Name*, ***Start_Stn_ID***, ***Dest_Stn_ID***, *Dist_Miles*, *Business_Class_Fare*, *Economy_Class_Fare*, *Running_Hours*)

Train_Timings(**Train_ID**, **Sl_No**, ***Stn_ID***, *Day_No*, *Arrives_At*, *Departs_At*)

Submission instructions:

Please submit to Vocareum the following
Your SQL script **(answer.sql)**. It should contain the SQL queries and look like the following:

–Query1 Select.....
. . . . . .
– Query10 Select.....

1. Find the names of all the trains along with start and destination names. (5 points)
2. List the names of the most expensive and least expensive train(s) for business class. Repeat the same query for the economy class (you may write two separate queries or write it in a single query). (10 points)
3. List the train names, the ticket fares and the difference in their business class and economy class fares in a column named *DIFFERENCE_IN_FARES*. (10 points)
4. How many trains depart from Indianapolis? (5 points)
5. Follow-up for question 4: list the names of trains and destinations for trains departing from Indianapolis (5 points)
6. List the names of all the trains between Atlanta and Sacramento along with fare values (10 points)
7. Which train takes the least time to reach its destination? how long does it take to reach destination? also display the distance between the locations in KMs as $DIST\_IN\_KMS$. (1mile = 0.6km) (10 points)
8. List the names of the cities which have atleast 2 trains passing through it. (10 points)
9. List the names of the trains that reach their destination the same day. (10 points)
10. List the names of the cities through which $TRAIN\_NO$ 2 passes in the exact order of passing along with the arrival and departure times. (10 points)
11. List the $TRAIN\_IDS$, $TRAIN\_NAMES$, start and destination city names and the state names of the trains that run between different cities in the same state. (15 points)

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