IRC_RDBMS_D8_Joins_CE_COD

Test Summary

- No. of Sections: 1
- No. of Questions: 5
- Total Duration: 120 min

Section 1 - coding

Section Summary

- No. of Questions: 5
- Duration: 120 min

Additional Instructions:

None

Q1. **Cancellation Rate of Request With Unbanned Users**

Problem Description

Write a SQL query to find the cancellation rate of requests with unbanned users (both client and driver must not be banned) each day between "2013-10-01" and "2013-10-03".
Round Cancellation Rate to two decimal points. Return the result table in any order.
The cancellation rate is computed by dividing the number of canceled (by client or driver) requests with unbanned users by the total number of requests with unbanned users on that day.

Table: Trips

+- - - - - - - - - - -+- - - - - +

| Column Name | Type |

+- - - - - - - - - - -+- - - - - +

| id | int |

| client_id | int |

| driver_id | int |

| city_id | int |

| status1 | enum |

| request_at | date |

+-------------+----------+

id is the primary key for this table.

The table holds all taxi trips. Each trip has a unique id, while client_id and driver_id are foreign keys to the users_id at the Users table.

status1 is an ENUM type of ('completed', 'cancelled_by_driver', 'cancelled_by_client').

Table Users

Table: `Users`

```
+-------------+----------+
| Column Name | Type     |
+-------------+----------+
| users_id    | int      |
| banned      | enum     |
| role        | enum     |
+-------------+----------+
users_id is the primary key for this table.
The table holds all users. Each user has a unique users_id, and role is an ENUM
type of ('client', 'driver', 'partner').
banned is an ENUM type of ('Yes', 'No').
```

Sample Input **Sample Output**

```
Day     Cancellation Rate
2013-10-01      0.33
2013-10-02      0.00
2013-10-03      0.50
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q2. **Winning Candidate**

Problem Description

Consider the below tables

Table 1:

Table Name: CANDIDATE

Column Name: id, name

Sample input

+-----+--------+

| id | name|

+-----+--------+

| 1 | Alex |

| 2 | Prabhu |

| 5 | Naveen |

| 6 | Dinesh |

| 9 | Roshini |

+-----+--------+

Table 2:

Table Name: VOTE

Column Name: id, CandidateId

CandidateId is the id appeared in Candidate table.

Sample Input

+-----+-------------+

| id | CandidateId |

+-----+-------------+

| 1 | 1 |

| 2 | 2 |

| 3 | 1 |

| 4 | 2 |

| 5 | 2 |

| 6 | 6 |

| 7 | 1 |

| 8 | 6 |

| 9 | 9 |

+-----+-------------+

Write a query to find the name of the winning candidate.

For the above example, the Output will be

Name

Prabhu

Note: You may assume there is no tie, in other words there will be only one winning candidate.

The output should have the following header.

Name

Sample Input

Sample Output

```
Name
Roshini
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q3. **Railway Reservation System**

Problem Description

Given the schema of Railway Reservation System, write a query to list the trains(train_number, train_name), route number and the number of sub stations it has. Ignore the trains whose sub station is not listed.

Same train can have more than one route(route_no) with different stations. List the train for each route number along with the number of stations.

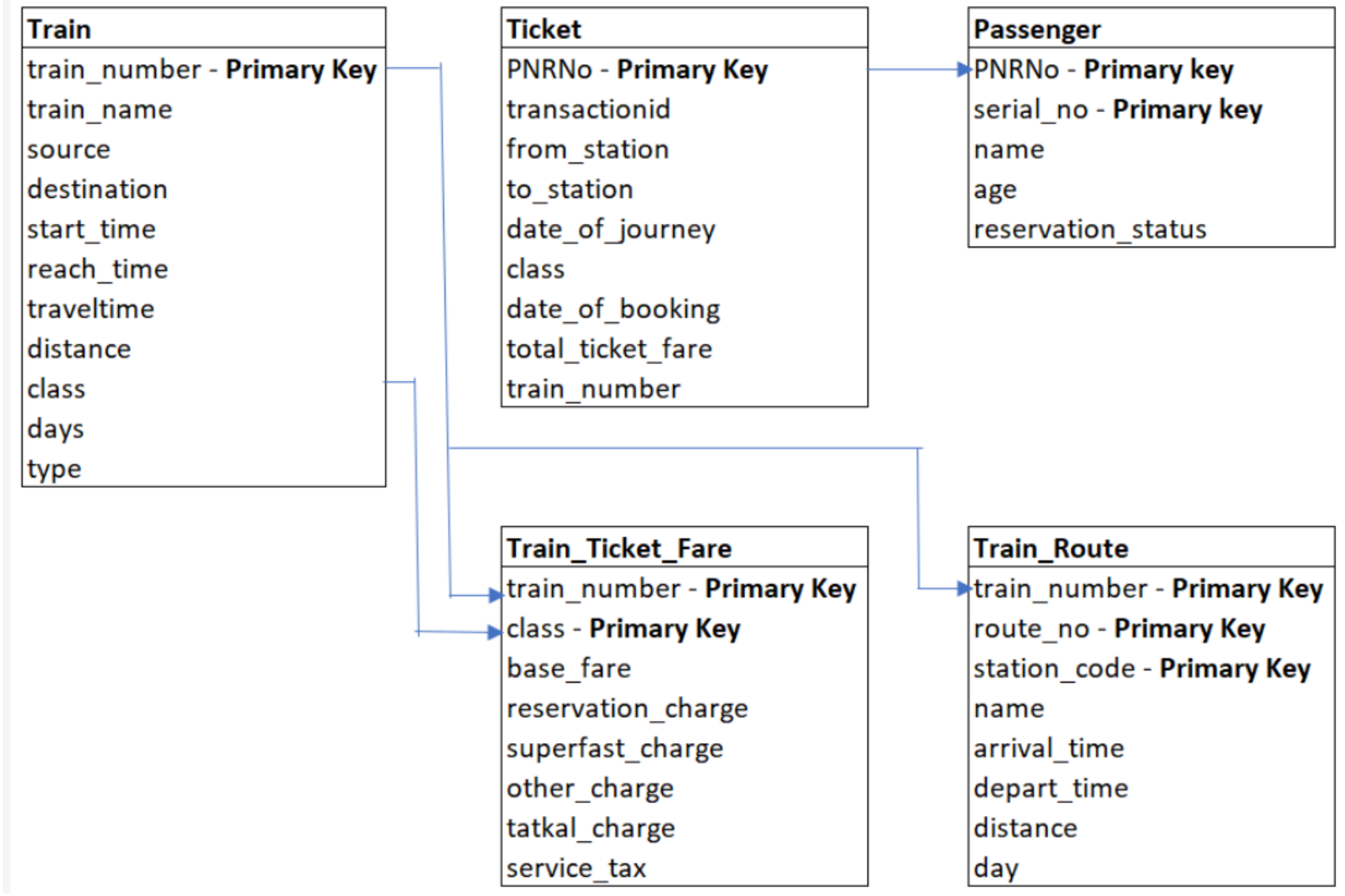
Sort the output by descending order of train_number and descending order of route_no.

Note:

Refer the table Train and Train_Route from the given schema.

Table names are case sensitive.

Refer Output Format section for the output header names.



Sample Input

Sample Output

```
train_number    train_name      route_no        number_
14098   Rajdhani Express        12      4
13341   Hampi Express   1       5
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q4. **Report the names of all Sales Person**

Problem Descfription

Write an SQL query to report the names of all the salespersons who did not have any orders related to the company with the name "RED".

Return the result table in any order.

SalesPerson(Table)

Table: `SalesPerson`

```
+-----------------+---------+
| Column Name     | Type    |
+-----------------+---------+
| sales_id        | int     |
| name            | varchar |
| salary          | int     |
| commission_rate | int     |
| hire_date       | date    |
+-----------------+---------+
sales_id is the primary key column for this table.
Each row of this table indicates the name and the ID of a salesperson alongside
their salary, commission rate, and hire date.
```

Company(Table)

Table: `Company`

```
+-------------+---------+
| Column Name | Type    |
+-------------+---------+
| com_id      | int     |
| name        | varchar |
| city        | varchar |
+-------------+---------+
com_id is the primary key column for this table.
Each row of this table indicates the name and the ID of a company and the city
in which the company is located.
```

Orders(Table)

Table: `Orders`

```
+-------------+------+
| Column Name | Type |
+-------------+------+
| order_id    | int  |
| order_date  | date |
```

Sample Input

Sample Output

```
name
Amy
Mark
Alex
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q5. **Railway Reservation System At Katpadi**

Problem Description

Given the schema of Railway Reservation System, write a query to find the train details(train_number, train_name, route_no) that stops at '**Katpadi**'.

Sort the output by ascending order of train_number.

Note:

Refer the table **Train and Train_Route** from the given schema.

Table names are case sensitive.

Refer Output Format section for the output header names.

Sample Input

Sample Output

```
train_number    train_name      route_no
12233   Nilgiri Express         6
12435   Yercaurd Express        2
13340   Chennai Express         8
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Answer Key & Solution

Section 1 - coding

Q1

Test Case

Input

Output

```
Day     Cancellation Rate
2013-10-01      0.33
2013-10-02      0.00
2013-10-03      0.50
```

Weightage - 100

Sample Input

Sample Output

```
Day     Cancellation Rate
2013-10-01      0.33
2013-10-02      0.00
2013-10-03      0.50
```

Solution

```
SELECT  t.request_at AS "Day",
        ROUND(
            COUNT(CASE
                    WHEN t.status1 != 'completed' THEN 1     -- numerator is total cancelled trips
                    ELSE NULL
                END) / COUNT(id)                            -- denominator is all trips for that day
        , 2) AS "Cancellation Rate"
FROM    trips AS t
JOIN    users AS client                                     -- users table role-playing as client
ON      t.client_id = client.users_id
AND     client.banned = 'No'                                -- unbanned client
JOIN    users AS driver                                     -- users table role-playing as driver
ON      driver.users_id = t.driver_id
AND     driver.banned = 'No'                                -- unbanned driver
AND     t.request_at BETWEEN '2013-10-01'
                         AND '2013-10-03'
GROUP BY t.request_at;
```

Q2

Test Case

Input

Output

```
Name
Roshini
```

Weightage - 100

Sample Input

Sample Output

```
Name
Roshini
```

Solution

```
SELECT
    name AS 'Name'
FROM
    CANDIDATE
        JOIN
    (SELECT
        CandidateId
    FROM
        VOTE
    GROUP BY CandidateId
    ORDER BY COUNT(*) DESC
    LIMIT 1) AS winner
WHERE
    CANDIDATE.id = winner.Candidateid
;
```

Q3

Test Case

Input

Output

```
train_number    train_name      route_no        numbe
14098   Rajdhani Express        12      4
13341   Hampi Express   1       5
```

Weightage - 100

Sample Input

Sample Output

```
train_number    train_name      route_no        numbe
14098   Rajdhani Express        12      4
13341   Hampi Express   1       5
```

Solution

```
SELECT T.train_number, T.train_name, TR.route_no, count(TR.train_number) AS number_of_stations
FROM
Train T
JOIN
Train Route TR
ON T.train_number = TR.train_number
GROUP BY 1,3
ORDER BY 1 DESC, 3 DESC;
```

Q4

Test Case

Input

Output

```
name
Amy
Mark
Alex
```

Weightage - 100

Sample Input

Sample Output

```
name
Amy
```

	Mark

Solution

```
 select SalesPerson.name
from Orders o join Company c on (o.com_id = c.com_id and c.name = 'RED')
right join SalesPerson on SalesPerson.sales_id = o.sales_id
where o.sales_id is null
```

Q5

Test Case

Input

Output

train_number	train_name	route_no
12233	Nilgiri Express	6
12435	Yercaurd Express	2
13340	Chennai Express	8

Weightage - 100

Sample Input

Sample Output

train_number	train_name	route_no
12233	Nilgiri Express	6
12435	Yercaurd Express	2
13340	Chennai Express	8

Solution

```
 SELECT T.train_number, T.train_name, TR.route_no
FROM
Train T
JOIN
Train_Route TR
ON T.train_number = TR.train_number
WHERE TR.name = 'Katpadi'
ORDER BY 1;
```