



RDBMS

Section 1 -

- Create Database and Tables
- Create and Alter Table with all constraint
- Select, Insert, Update, and Delete
- OrderBy, GroupBy
- Primary and Foreign Key
- Joins and SubQuery

- *1. How to select UNIQUE records from a table using a SQL Query?
- *2. How to delete DUPLICATE records from a table using a SQL Query?
- *3. How to read TOP 5 records from a table using a SQL Query?
- *4. How to read Last 5 records from a table using a SQL Query?
- *5. How to find the employee with second MAX Salary using a SQL Query?
- *6. How to find the employee with third MAX Salary using a SQL Query?
- *7. Assume you have the below tables on sessions that users have, and a user's table. Write a query to get the active user count of daily cohorts.

sessions

column_name	type
user_id	integer
session_id	integer
date	datetime

users + Add a view

column_name	type
user_id	integer
email	string
date	datetime

- *8. Assume you are given the below table on transaction from users for purchase. Write a query to get the list of customers where their earliest purchase was at least \$50

user_transactions

column_name	type
transaction_id	integer
product_id	integer
user_id	integer
spend	float
transaction_date	datetime

- *9. Assume you are given the below table on transactions from users. Write a query to get the number of users and total products bought per latest transaction date where each user is bucketed into their latest transaction date.

user_transactions

column_name	type
transaction_id	integer
product_id	integer
user_id	integer
spend	float
transaction_date	datetime

- *10. Assume you are given the below tables on users and their time spent on sending and opening Snaps. Write a query to get the breakdown for each age breakdown of the percentage of time spent on sending versus opening snaps.

activities

column_name	type
activity_id	integer
user_id	integer
type	string ('send', 'open')
time_spent	float
activity_date	datetime

age_breakdown

column_name	type
user_id	integer
age_bucket	string

*11. Assume you are given the below table on reviews from users. Define a top-rated place as a business whose reviews only consist of 4 or 5 stars. Write a query to get the number and percentage of businesses that are top-rated places.

*12. Given the following tables:

Sql> Select * from runners;

Table: runners

Id	Name
1	John Doe
2	John Doe
3.	Alice Jones
4	Bobby Louis
5	Lisa Romero

Sql> select * from races;

Table: races

id	Event	Winner_id
1	100 meter dash	2
2	500 meter dash	3
3	Cross-country	2
4	Triathlon	NULL

What will be the result of the query below?

Select * from eunners where id not in (select winner_id from races)

*13. Assume a schema of EMP (ID, Name, DeptId), Dept (Id, Name).

If there are 10 records in the Emp table and 5 records in the Dept table, how many rows will be displayed in the result of the following SQL query:

Query: Select * from Emp,Dept

*14. Suppose you have a table "Loan_Records".

Table: Loan_Records

<u>Borrower</u>	<u>Bank_Manager</u>	<u>Loan_Amount</u>
Ramesh	Sunderajan	10000.00
Suresh	Ramgopal	5000.00
Mahesh	Sunderajan	7000.00

Query: select Count(*) from ((select Borrower, Bank_Manager from Loan_Records) As Natural Join (Select Bank_Manager, Loan_Amount from Loan_Records) as T);

What is the output of the following SQL query?

#1. What will be the output of the below query?

Query: Select Company, Avg(salary) from AV1 having avg(salary) > 1200 group by Company where Salary > 1000;

#2. SQL Query to find the second highest salary of Employee

#3. SQL Query to find Max Salary from each department.

#4. Write SQL Query to display the current date?

#5. Write an SQL Query to print the name of the distinct employee whose DOB is between 01/01/1960 to 31/12/1975.

#6. Write an SQL Query to find an employee whose salary is equal to or greater than 10000.

#7. Write SQL Query to find duplicate rows in a database? And then write SQL Query to delete them?

- #8. How do you find all employees who are also managers?
- #9. Write a SQL Query to find all duplicates emails in a table named Person.

Table: `Customers`.

```
+-----+
| Id | Email |
+-----+
| 1 | a@b.com |
| 2 | c@d.com |
| 3 | a@b.com |
+-----+
```

For example, your query should return the following for the above table.

```
+-----+
| Email |
+-----+
| a@b.com |
+-----+
```

- #10. Given a Weather table, write a SQL query to find all dates' Ids with higher temperature compared to its previous (yesterday's) dates.

```
+-----+-----+-----+
| Id(INT) | RecordDate(Date) | Temperature(INT) |
+-----+-----+-----+
| 1 | 2015-01-01 | 10 |
| 2 | 2015-01-02 | 25 |
| 3 | 2015-01-03 | 20 |
| 4 | 2015-01-04 | 30 |
+-----+-----+-----+
```

- #11. The Employee table holds all employee including their managers. Every employee has an Id, and there is also a column for the managerId.

```
+-----+-----+-----+-----+
| Id | Name | Salary | ManagerId |
+-----+-----+-----+-----+
| 1 | Joe | 70000 | 3 |
| 2 | Henry | 80000 | 4 |
| 3 | Sam | 60000 | NULL |
| 4 | Max | 90000 | NULL |
+-----+-----+-----+-----+
```

Given the Employee table, write a SQL query that finds out employees who earn more than their managers. For the above table, Joe is the only employee who earns more than his manager.

```

+-----+
| Employee |
+-----+
| Joe      |
+-----+

```

#12. X city opened a new cinema, many people would like to go to this cinema. The cinema also gives out a poster indicating the 'movies' ratings and descriptions. Please write a SQL Query to output movies with an odd numbered ID and a description that is not 'boring'. Order the result by rating.

Table: Cinema

```

+-----+-----+-----+-----+
| id  | movie  | description | rating |
+-----+-----+-----+-----+
| 1   | War    | great 3D   | 8.9    |
| 2   | Science| fiction     | 8.5    |
| 3   | irish  | boring     | 6.2    |
| 4   | Ice song| Fantasy    | 8.6    |
| 5   | House card| Interesting| 9.1    |
+-----+-----+-----+-----+

```

#13. Write a SQL query to get the n^{th} highest salary from the Employee table.

Id	Salary
1	100
2	200
3	300

For example, given the above Employee table, the n^{th} highest salary where $n=2$ is 200. If there is no n^{th} highest salary, then the query should return null.

#14. From the following table of user IDs, actions, and dates, write a query to return the publication and cancellation rate for each user.

users

user_id	action	date
1	start	1-1-20
1	cancel	1-2-20
2	start	1-3-20
2	publish	1-4-20
3	start	1-5-20
3	cancel	1-6-20
4	start	1-7-20

Desired output

user_id	publish_rate	cancel_rate
1	0.5	0.5
2	1.0	0.0
3	0.0	1.0

#15. From the following table of transactions between two users, write a query to return the change in net worth for each user, ordered by decreasing net change.

transactions

sender	receiver	amount	transaction_date
5	2	10	2-12-20
1	3	15	2-13-20
2	1	20	2-13-20
2	3	25	2-14-20
3	1	20	2-15-20
3	2	15	2-15-20
1	4	5	2-16-20

Desired output

user	net_change
1	20
3	5
4	5
5	-10
2	-20

#16. From the following table containing a list of dates and items ordered, write a query to return the most frequent item ordered on each date. Return multiple items in the case of a tie.

Table: items

date	Item
1-1-20	Apple
1-1-20	Apple
1-1-20	Pear
1-1-20	Pear
1-2-20	Pear
1-2-20	Pear
1-2-20	pear
1-2-20	orange