TASK-3 SQL FOR DATA ANALYSIS:

1. SELECT with WHERE and ORDER BY:

```
1 SELECT name, email
2 FROM users
3 WHERE signup_date > '2024-01-01'
4 ORDER BY name ASC;

# users - TABLE
c1          c2
name        email
----------- -------------------
Dave Johnson jamesbeljohn@gmail.com
Jack Cox    james29@gmail.com
Jared Gonzalez zsztewart@yahoo.com
```

2. GROUP BY with Aggregate Function (COUNT):

```
1 SELECT COUNT(*) AS user_count
2 FROM users
3 GROUP BY SUBSTR(email, INSTR(email, '@') + 1);

# users - TABLE
c1
user_count
----------
1
1
1
1
```

3. INNER JOIN (Assuming a Related Table):

```
1 SELECT u.name, o.order_id
2 FROM users u
3 INNER JOIN orders o ON u.user_id = o.customer_id;

# users - TABLE, orders - TABLE
c1          c2
name        order_id
----------- --------
Jessica Parks 1001
Dave Johnson 1002
```

4. Subquery:

```
1 SELECT name
2 FROM users
3 WHERE user_id IN (
4     SELECT customer_id
5     FROM orders
6     WHERE status = 'Shipped'
7 );

# users - TABLE
c1
name
-----------
Jessica Parks
```

5. Create View:

```
1 CREATE VIEW UserOrderSummary AS
2 SELECT u.name, COUNT(o.order_id) AS order_count
3 FROM users u
4 LEFT JOIN orders o ON u.user_id = o.customer_id
5 GROUP BY u.name;

# (No immediate output; view created)
```

6. Optimize with Index:

```
1 SELECT name, signup_date
2 FROM users
3 WHERE user_id = 1;

# users - TABLE
c1          c2
name        signup_date
----------- -----------
Jessica Parks 2025-01-03
```