Set 2

Set 2:- Solve Below Question Using SQL :-

Table 1:- User Profile Data

User Id	Install Date	Role	Org ID
1	2022-05-01 12:30:45	Site Engineer	O1
1	2023-04-01 00:30:46	Planning Manager	O2
1	2023-07-01 05:45	Owner	OAE1
2	2021-04-03 14:23	SIte Engineer	OO1
2	2022-12-12 03:25	Site Supervisor	OO2
3	2023-01-01 16:45	Project Manager	AA1
3	2023-03-03 10:10	Project Manager	AA2
3	2023-03-03 11:11	CXO	AA3

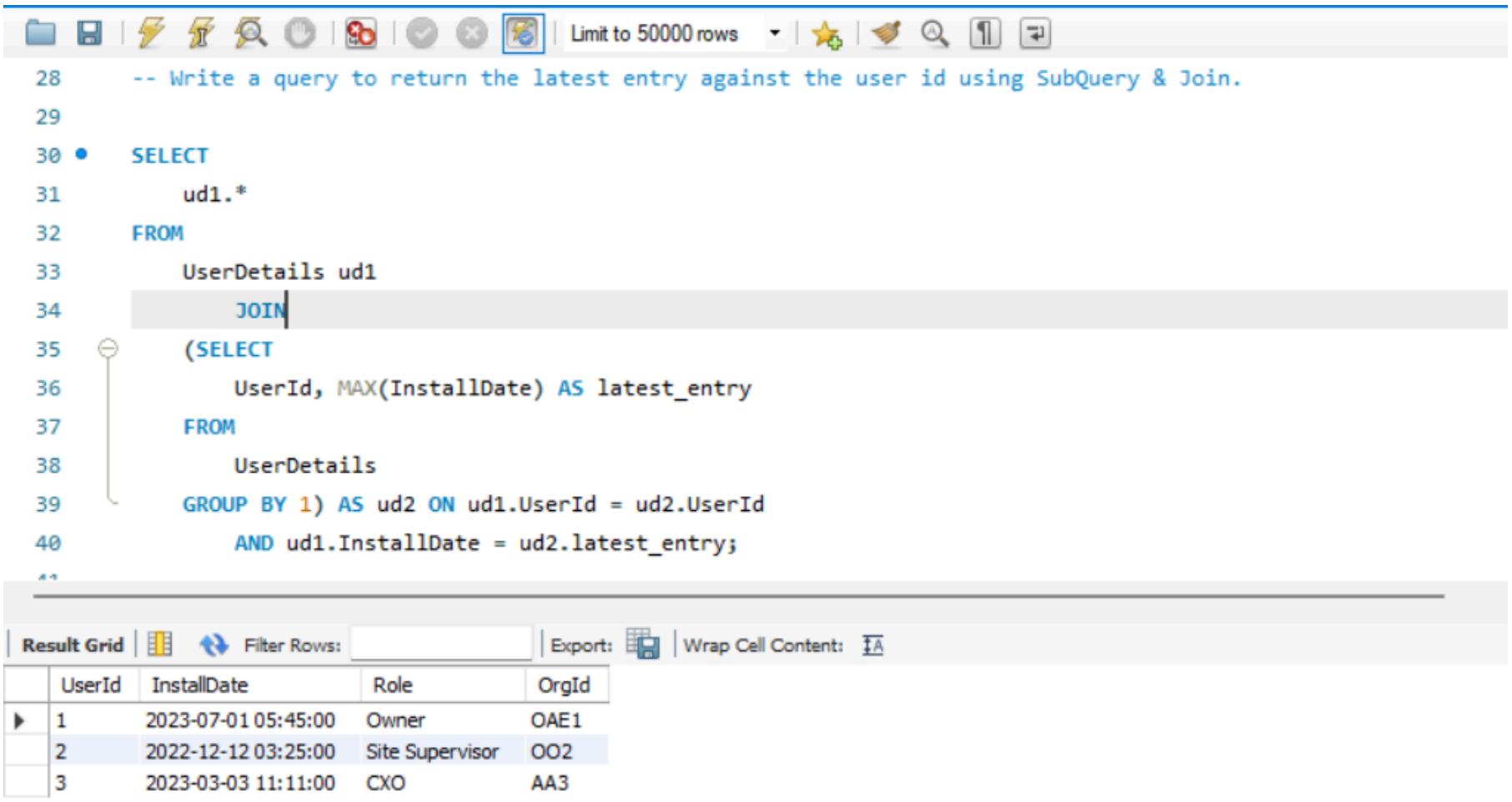
1. **Write a query to return the latest entry against the user id using SubQuery & Join.**

2. **Write a query to return the latest entry against the user id using the window function.**

1. Write a query to return the latest entry against the user id using SubQuery & Join.

```
SELECT
    ud1.*
FROM
    UserDetails ud1
        JOIN
    (SELECT
        UserId, MAX(InstallDate) AS latest_entry
    FROM
        UserDetails
    GROUP BY 1) AS ud2 ON ud1.UserId = ud2.UserId
        AND ud1.InstallDate = ud2.latest_entry;
```

Output:



2. Write a query to return the latest entry against the user id using the window function.

```
WITH cte AS(
SELECT *,
    LAST_VALUE(InstallDate) OVER(PARTITION BY UserId) AS latest_entry
```

```sql
FROM
    UserDetails
)
SELECT
    UserId, InstallDate, Role, OrgId
FROM
    cte
WHERE
    InstallDate = latest_entry;

-- or  (rank or row_number)

WITH cte AS(
SELECT * ,
    RANK() OVER(PARTITION BY UserId ORDER BY InstallDate DESC) AS rnk
FROM
    UserDetails
)
SELECT
    UserId, InstallDate, Role, OrgId
FROM
    cte
WHERE
    rnk = 1;
```

```sql
WITH cte AS(
SELECT * ,
    RANK() OVER(PARTITION BY UserId ORDER BY InstallDate DESC) AS rnk
FROM
    UserDetails
)
SELECT
    UserId, InstallDate, Role, OrgId
FROM
    cte
WHERE
    rnk = 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

UserId	InstallDate	Role	OrgId
1	2023-07-01 05:45:00	Owner	OAE1
2	2022-12-12 03:25:00	Site Supervisor	OO2
3	2023-03-03 11:11:00	CXO	AA3

1.Write a query to find the number of products bought in the month of January 2021.

2. Write a query to return the latest entry against the user id using the window function.

Table 2 ORDER_TABLE :-

user_id	order_id	purchase_datetime	product	category	product_revenue
56KHB	1234	2021-01-20 13:33:44	biscuit	food	100
56KHB	1234	2021-01-20 13:33:44	crocin	medicine	50
32HBK	1235	2021-08-20 13:38:55	chips	food	100
67ABC	1236	2021-08-20 15:32:12	shoes	footwear	1200
67ABC	1236	2021-08-20 15:32:12	shirt	clothing	500
67ABC	1236	2021-01-20 15:32:12	earphones	electronics	450
67ABC	1237	2021-08-20 16:18:19	laptop	electronics	45000
67ABC	1237	2021-08-20 16:18:19	socks	clothing	150

1. Write a query to find the number of products bought in the month of January 2021.
2. Write a query to find the second order_id for each user_id (Without Window Function)
3. Write a query to find the min, max and average time between two orders for any user.

```sql
SELECT
    COUNT(DISTINCT product) AS no_of_products
FROM
    OrderDetails
WHERE
```

```sql
    MONTH(purchase_datetime) = 01
        AND YEAR(purchase_datetime) = 2021;
```

```sql
-- 1.Write a query to find the number of products bought in the month of January 2021.

SELECT
    COUNT(DISTINCT product) AS no_of_products
FROM
    OrderDetails
WHERE
    MONTH(purchase_datetime) = 01
        AND YEAR(purchase_datetime) = 2021;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

no_of_products
3

⚡ 2.Write a query to find the second order_id for each user_id (Without Window Function)

```sql
SELECT
    o1.user_id, o2.order_id AS Second_order_id
FROM
    OrderDetails o1
        JOIN
    OrderDetails o2 USING (user_id)
WHERE
    o1.order_id < o2.order_id
GROUP BY 1 , 2;
```

```sql
-- 2.Write a query to find the second order_id for each user_id ( Without Window Function)

SELECT
    o1.user_id, o2.order_id AS Second_order_id
FROM
    OrderDetails o1
        JOIN
    OrderDetails o2 USING (user_id)
WHERE
    o1.order_id < o2.order_id
GROUP BY 1 , 2;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

user_id	Second_order_id
67ABC	1237

⚡ 3.Write a query to find the min, max and average time between two orders for any user.

```sql
SELECT
    user_id,
    MIN(between_time) AS min_time,
    MAX(between_time) AS max_time,
    AVG(between_time) AS avg_time
FROM
    (SELECT
        user_id,
            DATEDIFF(MAX(purchase_datetime), MIN(purchase_datetime)) AS between_time
    FROM
        OrderDetails
    GROUP BY 1
    HAVING COUNT(DISTINCT order_id) > 1) AS c
GROUP BY 1;
```

```sql
-- 3.Write a query to find the min, max and average time between two orders for any user.
SELECT
    user_id,
    MIN(between_time) AS min_time,
    MAX(between_time) AS max_time,
    AVG(between_time) AS avg_time
FROM
    (SELECT
        user_id,
            DATEDIFF(MAX(purchase_datetime), MIN(purchase_datetime)) AS between_time
    FROM
        OrderDetails
    GROUP BY 1
    HAVING COUNT(DISTINCT order_id) > 1) AS c
GROUP BY 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

user_id	min_time	max_time	avg_time
67ABC	212	212	212.0000

In [ ]:

Set 3:

Set 3 :-
Json Data (Meta Data) :-

```
mobile:{
  “Name”: “xyz”,
  “Mobile” :”Iphone”
  “Mobileid”:23,
   “Mapping”: {
            “Imei”:12344567777,
            “Specification”: {
             Model :- “Apple 12”,
             OS Version:-17.0.1,
          },
            “Country”:”us”,
           “Product_name”:”iphone 12”
  }
}
```

Write a python script to extract following information (without using any inbuilt Function) use only pandas (list, dictionary etc), and Loop (for, while etc)

Output :- Imei, model,os version,country,product_name,mobileid

In [14]:
```python
mobile = {
    "Name": "xyz",
    "Mobile": "Iphone",
    "Mobileid": 23,
    "Mapping": {
        "Imei": 12344567777,
        "Specification": {
            "Model": "Apple 12",
            "Os Version": "17.0.1",
        },
        "Country": "us",
        "Product_name": "iphone 12"
    }
}
print(mobile)
```

```
{'Name': 'xyz', 'Mobile': 'Iphone', 'Mobileid': 23, 'Mapping': {'Imei': 12344567777, 'Specification': {'Model': 'Apple 12', 'Os Version': '17.0.1'}, 'Country': 'us', 'Product_name': 'iphone 12'}}
```

In [15]:
```python
result = {
          'Imei':None,
          'Model':None,
          'Os Version':None,
          'Country':None,
          'Product_name':None,
          'Mobileid':None
         }

result['Imei'] = mobile['Mapping']['Imei']
```

```
result['Model'] = mobile['Mapping']['Specification']['Model']

result['Os Version'] = mobile['Mapping']['Specification']['Os Version']

result['Country'] = mobile['Mapping']['Country']

result['Product_name'] = mobile['Mapping']['Product_name']

result['Mobileid'] = mobile['Mobileid']

for key,value in result.items():
    print(f"{key} - {value}")
```

```
Imei - 12344567777
Model - Apple 12
Os Version - 17.0.1
Country - us
Product_name - iphone 12
Mobileid - 23
```

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