

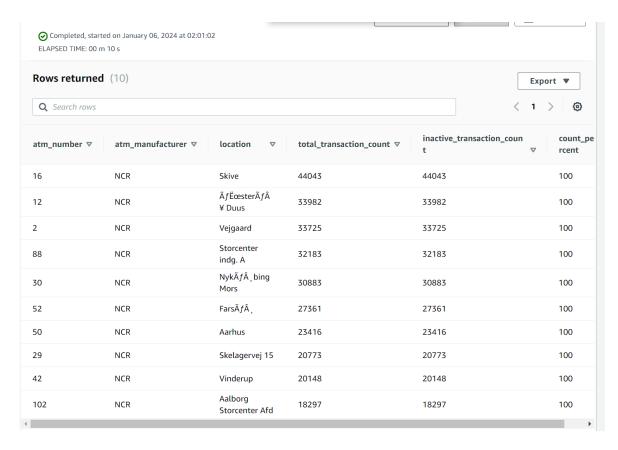


## Solving analytical queries on Redshift Cluster

Here, you have to write the query used for solving the question and the screenshots of the table which is outputted after the query is run on the AWS Redshift Query editor UI.

#### 1. Top 10 ATMs where most transactions are in the 'inactive' state

select a.atm\_number, a.atm\_manufacturer, l.location, count(trans\_id) as total\_transaction\_count, sum(case when atm\_status = 'lnactive' then 1 else 0 end) as inactive\_transaction\_count, (inactive\_transaction\_count/total\_transaction\_count)\*100 as count\_percent from rs\_schema3.fact\_atm\_trans f, rs\_schema3.dim\_atm a, rs\_schema3.dim\_location l where f.atm\_id = a.atm\_id and a.atm\_location\_id = l.location\_id group by a.atm\_number, a.atm\_manufacturer, l.location having count\_percent > 50 order by inactive\_transaction\_count desc limit 10;

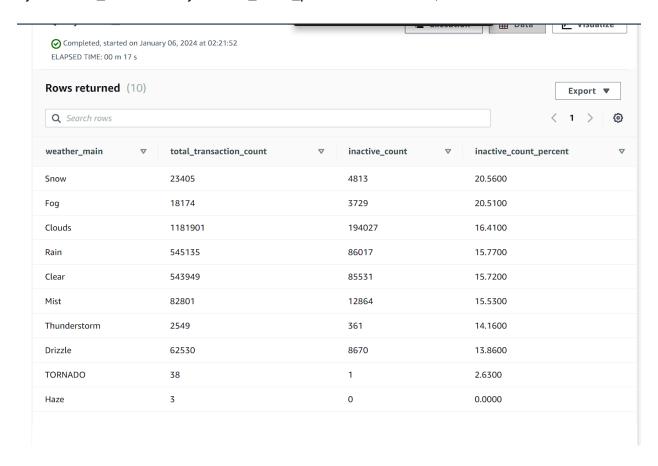






# 2. Number of ATM failures corresponding to the different weather conditions recorded at the time of the transactions

select f.weather\_main, count(trans\_id) as total\_transaction\_count, sum(case when atm\_status = 'lnactive' then 1 else 0 end) as inactive\_count, case when coalesce(inactive\_count, 0) = 0 then 0.0000 else trunc((cast(inactive\_count as numeric(10,4))/total\_transaction\_count)\*100, 2) end as inactive\_count\_percent from rs\_schema3.fact\_atm\_trans f where f.weather\_main != " group by f.weather\_main order by inactive\_count\_percent desc limit 10;

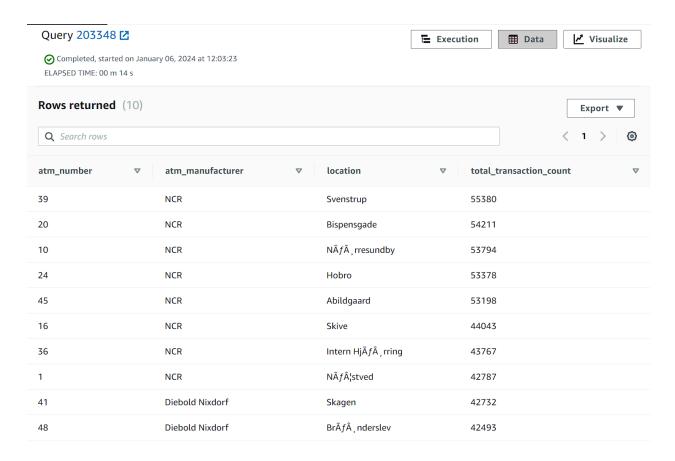


#### 3. Top 10 ATMs with the most number of transactions throughout the year

select a.atm\_number, a.atm\_manufacturer, I.location, count(trans\_id) as total\_transaction\_count from rs\_schema3.fact\_atm\_trans f, rs\_schema3.dim\_atm a, rs\_schema3.dim\_location I where f.atm\_id = a.atm\_id and a.atm\_location\_id = I.location\_id group by a.atm\_number, a.atm\_manufacturer, I.location order by total\_transaction\_count desc limit 10;





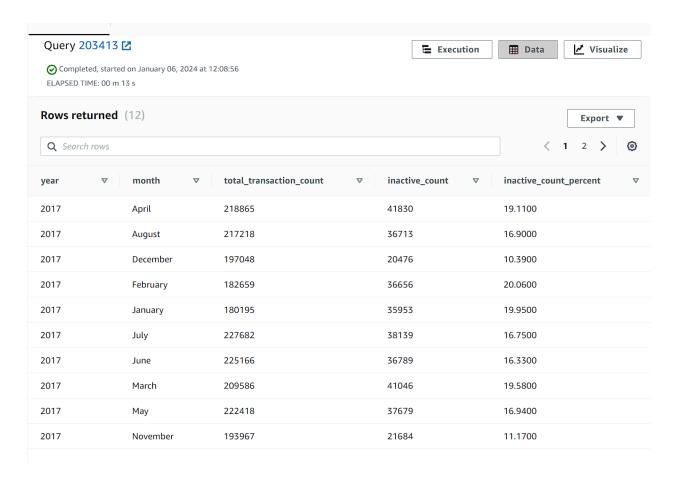


#### 4. Number of overall ATM transactions going inactive per month for each month

select d.year, d.month, count(trans\_id) as total\_transaction\_count, sum(case when atm\_status = 'Inactive' then 1 else 0 end) as inactive\_count, case when coalesce(inactive\_count, 0) = 0 then 0.0000 else trunc((cast(inactive\_count as numeric(10,4))/total\_transaction\_count)\*100, 2) end as inactive\_count\_percent from rs\_schema3.fact\_atm\_trans f inner join rs\_schema3.dim\_date d on f.date\_id = d.date\_id group by d.year, d.month order by d.year, d.month





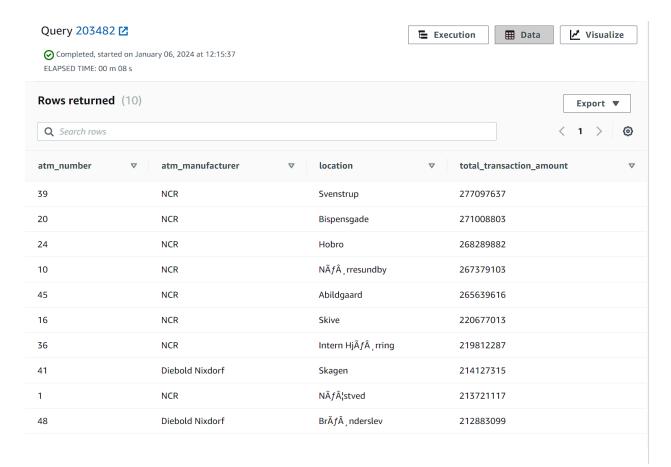


### 5. Top 10 ATMs with the highest total withdrawn amount throughout the year

select a.atm\_number, a.atm\_manufacturer, l.location, sum(transaction\_amount) as total\_transaction\_amount from rs\_schema3.fact\_atm\_trans f, rs\_schema3.dim\_atm a, rs\_schema3.dim\_location l where f.atm\_id = a.atm\_id and a.atm\_location\_id = l.location\_id group by a.atm\_number, a.atm\_manufacturer, l.location order by total\_transaction\_amount desc limit 10;





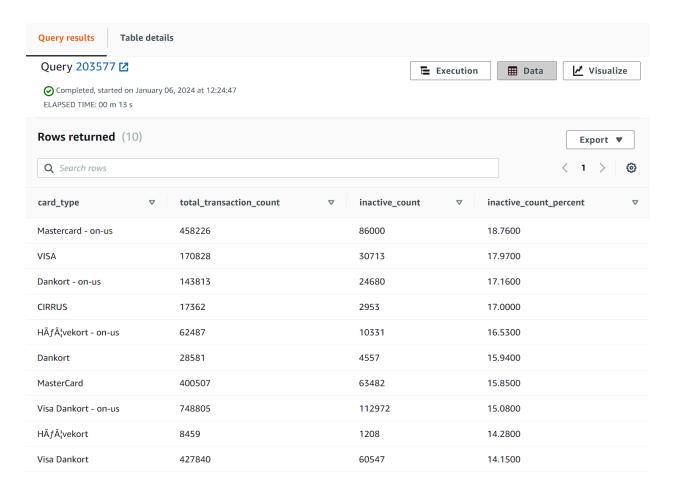


## 6. Number of failed ATM transactions across various card types

select ct.card\_type, count(trans\_id) as total\_transaction\_count, sum(case when atm\_status = 'Inactive' then 1 else 0 end) as inactive\_count, case when coalesce(inactive\_count, 0) = 0 then 0.0000 else trunc((cast(inactive\_count as numeric(10,4))/total\_transaction\_count)\*100, 2) end as inactive\_count\_percent from rs\_schema3.fact\_atm\_trans f, rs\_schema3.dim\_card\_type ct where f.card\_type\_id = ct.card\_type\_id group by ct.card\_type order by inactive\_count\_percent desc limit 10;





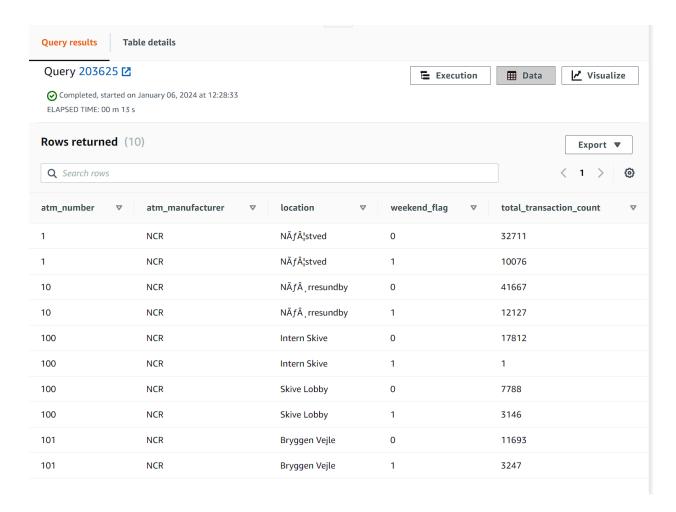


7. Number of transactions happening on an ATM on weekdays and on weekends throughout the year. Order this by the ATM\_number, ATM\_manufacturer, location, weekend\_flag and then total\_transaction\_count

select a.atm\_number, a.atm\_manufacturer, l.location, case when d.weekday in ('Saturday', 'Sunday') then 1 else 0 end as weekend\_flag, count(trans\_id) as total\_transaction\_count from rs\_schema3.fact\_atm\_trans f, rs\_schema3.dim\_atm a, rs\_schema3.dim\_location l, rs\_schema3.dim\_date d where f.atm\_id = a.atm\_id and a.atm\_location\_id = l.location\_id and f.date\_id = d.date\_id group by a.atm\_number, a.atm\_manufacturer, l.location, weekend\_flag order by a.atm\_number, a.atm\_manufacturer, l.location, weekend\_flag, total\_transaction\_count limit 10;







#### 8. Most active day in each ATMs from location "Vejgaard"

select a.atm\_number, a.atm\_manufacturer, I.location, d.weekday, count(trans\_id) as total\_transaction\_count from rs\_schema3.fact\_atm\_trans f inner join rs\_schema3.dim\_atm a on f.atm\_id = a.atm\_id inner join rs\_schema3.dim\_location I on a.atm\_location\_id = I.location\_id inner join rs\_schema3.dim\_date d on f.date\_id = d.date\_id where I.location = 'Vejgaard' and d.weekday in ( select d.weekday from rs\_schema3.fact\_atm\_trans f inner join rs\_schema3.dim\_date d on f.date\_id = d.date\_id inner join rs\_schema3.dim\_location I on f.weather\_loc\_id = I.location\_id where I.location = 'Vejgaard' group by d.weekday order by count(f.trans\_id) desc limit 1 ) group by a.atm\_number, a.atm\_manufacturer, I.location, d.weekday order by total\_transaction\_count;





