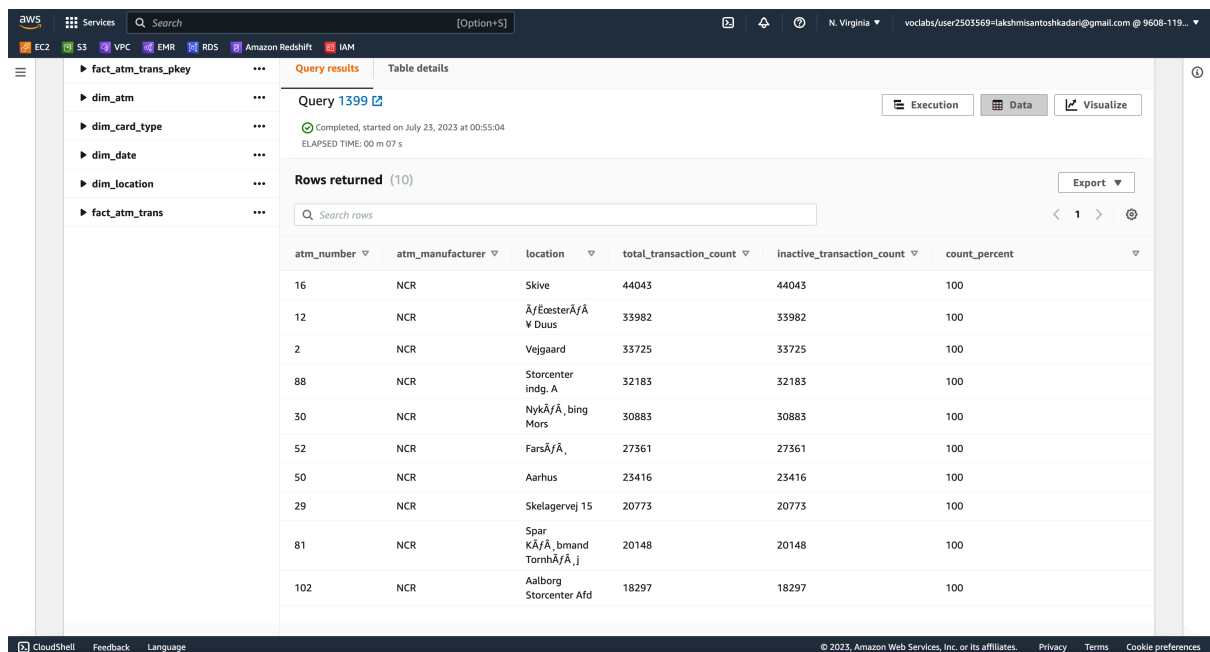


Running Queries for the Data Calculation on Amazon Redshift

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

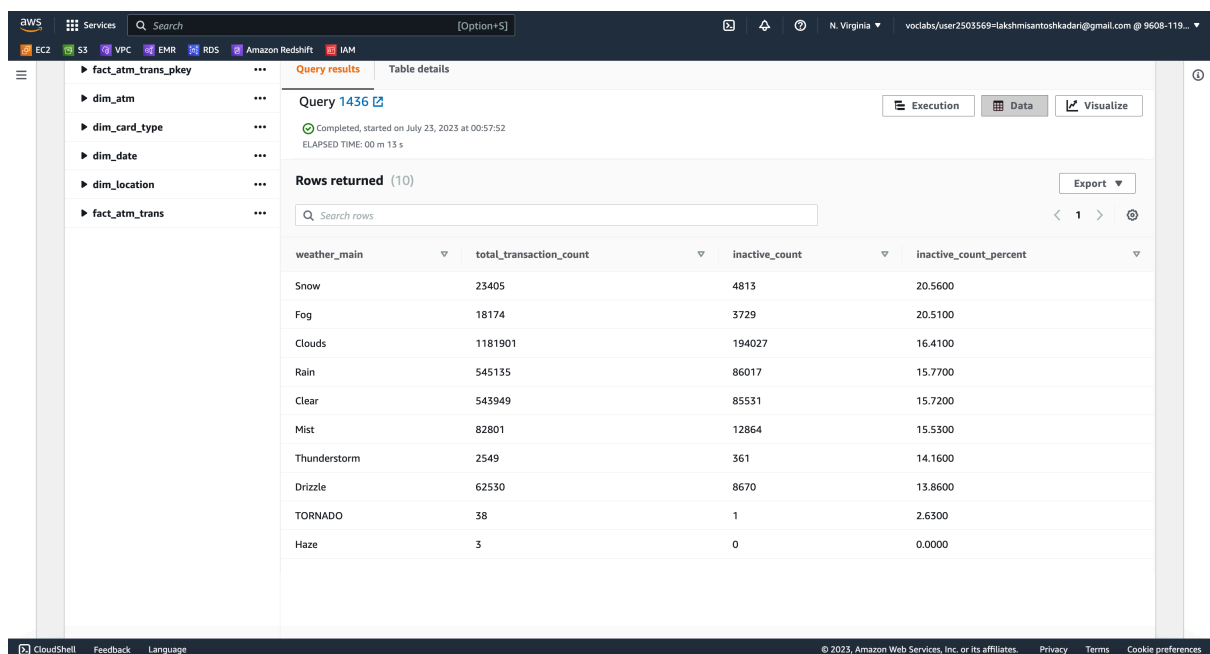
```
select a.atm_number, a.atm_manufacturer, l.location,
count(trans_id) as total_transaction_count,
sum(case when atm_status = 'Inactive' then 1 else 0 end) as
inactive_transaction_count,
(inactive_transaction_count/total_transaction_count)*100 as count_percent
from atm_data.fact_atm_trans f, atm_data.dim_atm a, atm_data.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;
```



atm_number	atm_manufacturer	location	total_transaction_count	inactive_transaction_count	count_percent
16	NCR	Skive	44043	44043	100
12	NCR	Århus	33982	33982	100
2	NCR	Vejgaard	33725	33725	100
88	NCR	Storcenter indg. A	32183	32183	100
30	NCR	Nykøbing, bing Mors	30883	30883	100
52	NCR	Farsø	27361	27361	100
50	NCR	Aarhus	23416	23416	100
29	NCR	Skelagervej 15	20773	20773	100
81	NCR	Spar København, bmand Tørshavn	20148	20148	100
102	NCR	Aalborg Storcenter Afd	18297	18297	100

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 = '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 atm_data.fact_atm_trans f  
where f.weather_main != ''  
group by f.weather_main  
order by inactive_count_percent desc  
limit 10;
```



Query 1436

Completed, started on July 23, 2023 at 00:57:52
ELAPSED TIME: 00 m 13 s

Rows returned (10)

weather_main	total_transaction_count	inactive_count	inactive_count_percent
Snow	23405	4813	20.5600
Fog	18174	3729	20.5100
Clouds	1181901	194027	16.4100
Rain	545135	86017	15.7700
Clear	543949	85531	15.7200
Mist	82801	12864	15.5300
Thunderstorm	2549	361	14.1600
Drizzle	62530	8670	13.8600
TORNADO	38	1	2.6300
Haze	3	0	0.0000

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

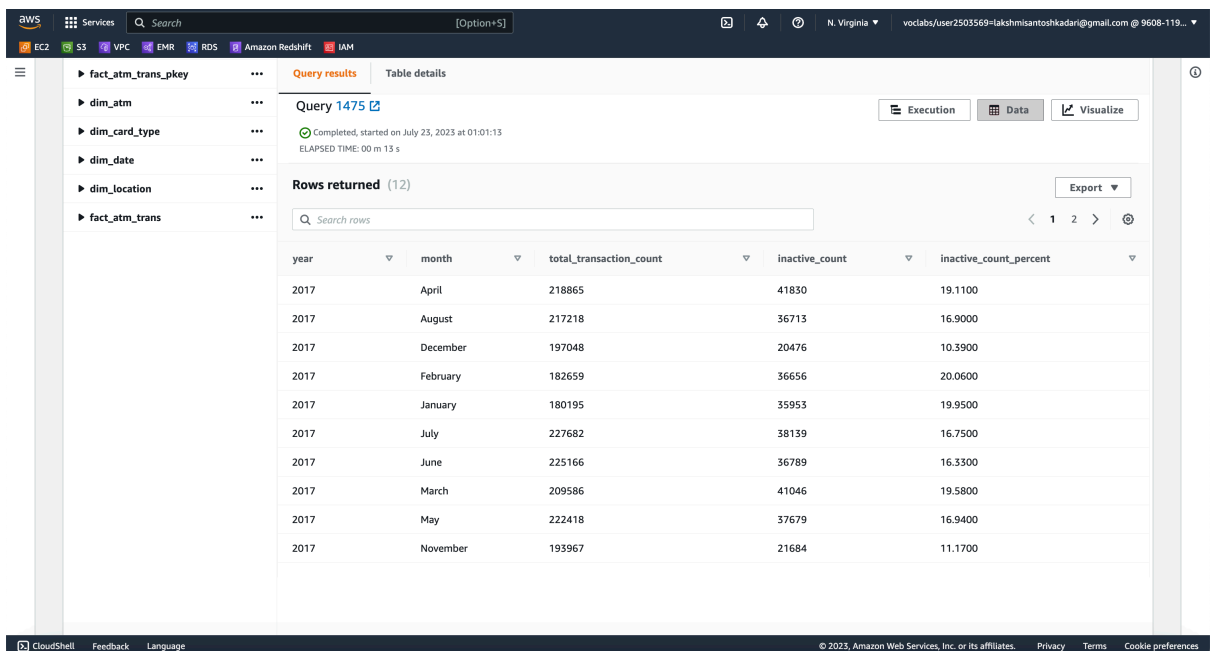
```
select a.atm_number, a.atm_manufacturer, l.location,  
count(trans_id) as total_transaction_count  
from atm_data.fact_atm_trans f, atm_data.dim_atm a, atm_data.dim_location l  
where f.atm_id = a.atm_id and a.atm_location_id = l.location_id  
group by a.atm_number, a.atm_manufacturer, l.location  
order by total_transaction_count desc  
limit 10;
```

The screenshot shows the AWS Redshift console interface. On the left, a sidebar lists database schemas: `dim_location_pkey`, `fact_atm_trans_pkey`, `dim_atm`, `dim_card_type`, `dim_date`, `dim_location`, and `fact_atm_trans`. The main panel displays the results of 'Query 1460', which was completed on July 23, 2023, at 00:59:48, with an elapsed time of 00 m 13 s. The results are shown in a table with 4 columns: `atm_number`, `atm_manufacturer`, `location`, and `total_transaction_count`. The table lists the top 10 ATMs based on their transaction counts.

atm_number	atm_manufacturer	location	total_transaction_count
39	NCR	Svenstrup	55380
20	NCR	Bispensgade	54211
10	NCR	NÅfÅ_rresundby	53794
24	NCR	Hobro	53378
45	NCR	Abildgaard	53198
16	NCR	Skive	44043
40	Diebold Nixdorf	Frederikshavn	43767
1	NCR	NÅfÅ_tstved	42787
41	Diebold Nixdorf	Skagen	42732
48	Diebold Nixdorf	BrÅfÅ_nderlev	42493

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 atm_data.fact_atm_trans f inner join atm_data.dim_date d on f.date_id =  
d.date_id  
group by d.year, d.month  
order by d.year, d.month  
;
```

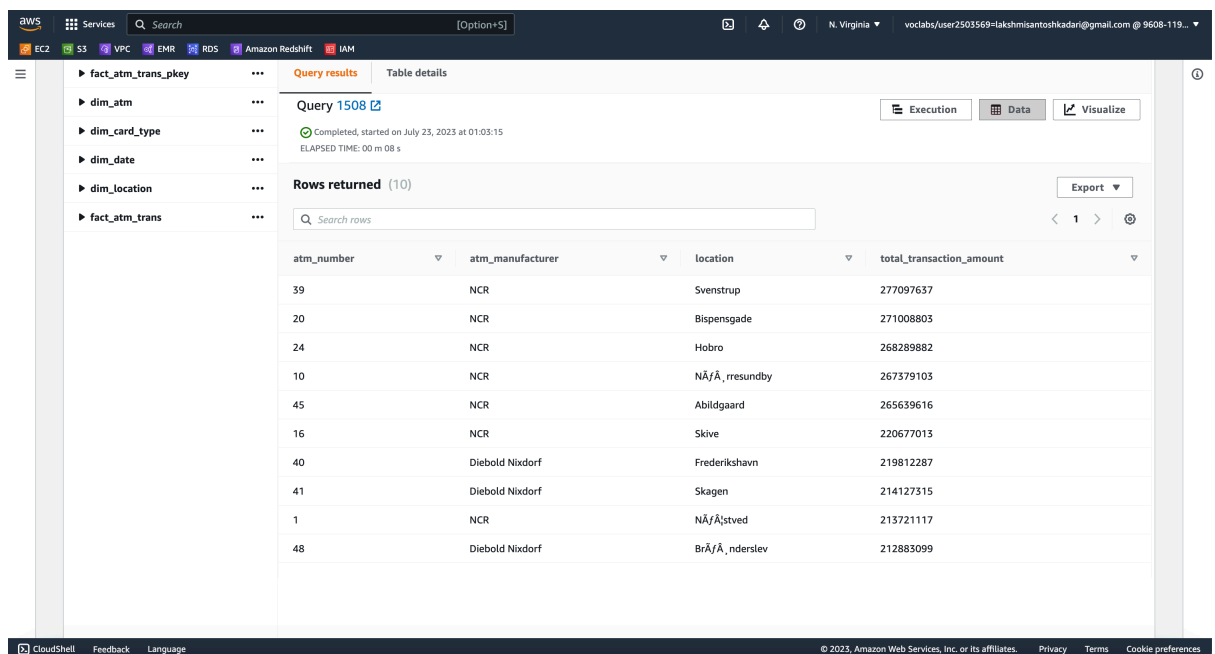


The screenshot shows the AWS Redshift console interface. On the left, a sidebar lists database tables: fact_atm_trans_pkey, dim_atm, dim_card_type, dim_date, dim_location, and fact_atm_trans. The main panel displays the results for Query 1475, which was completed on July 23, 2023, at 01:01:13, with an elapsed time of 00 m 13 s. The results are shown in a table with 12 rows returned. The table has columns for year, month, total_transaction_count, inactive_count, and inactive_count_percent. The data is sorted by year and month.

year	month	total_transaction_count	inactive_count	inactive_count_percent
2017	April	218865	41830	19.1100
2017	August	217218	36713	16.9000
2017	December	197048	20476	10.3900
2017	February	182659	36656	20.0600
2017	January	180195	35953	19.9500
2017	July	227682	38139	16.7500
2017	June	225166	36789	16.3300
2017	March	209586	41046	19.5800
2017	May	222418	37679	16.9400
2017	November	193967	21684	11.1700

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 atm_data.fact_atm_trans f, atm_data.dim_atm a, atm_data.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;
```



Query 1508

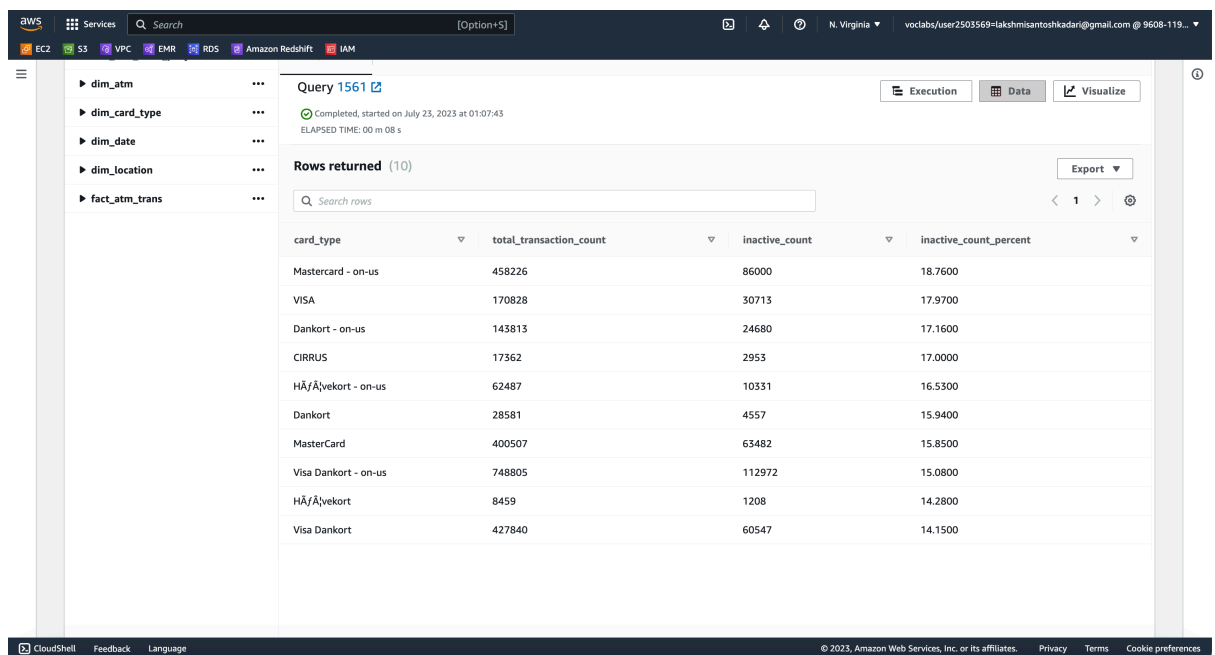
Completed, started on July 23, 2023 at 01:03:15
ELAPSED TIME: 00 m 08 s

Rows returned (10)

atm_number	atm_manufacturer	location	total_transaction_amount
39	NCR	Svenstrup	277097637
20	NCR	Bispensgade	271008803
24	NCR	Hobro	268289882
10	NCR	NÅfÅ, resundby	267379103
45	NCR	Abildgaard	265639616
16	NCR	Skive	220677013
40	Diebold Nixdorf	Frederikshavn	219812287
41	Diebold Nixdorf	Skagen	214127315
1	NCR	NÅfÅ, stved	213721117
48	Diebold Nixdorf	BrÅfÅ, nderslev	212883099

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 atm_data.fact_atm_trans f, atm_data.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;
```



Query 1561

Completed, started on July 23, 2023 at 01:07:43
ELAPSED TIME: 00 m 08 s

Rows returned (10)

Search rows

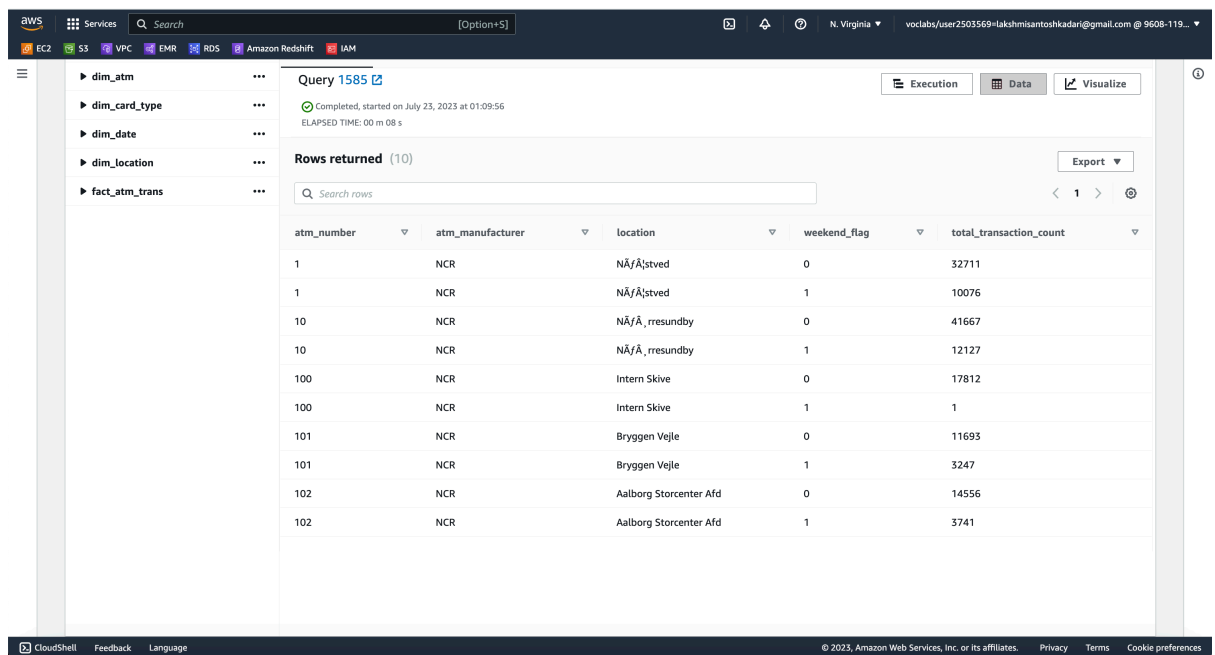
card_type	total_transaction_count	inactive_count	inactive_count_percent
Mastercard - on-us	458226	86000	18.7600
VISA	170828	30713	17.9700
Dankort - on-us	143813	24680	17.1600
CIRRUS	17362	2953	17.0000
HÃfÃ\vekort - on-us	62487	10331	16.5300
Dankort	28581	4557	15.9400
MasterCard	400507	63482	15.8500
Visa Dankort - on-us	748805	112972	15.0800
HÃfÃ\vekort	8459	1208	14.2800
Visa Dankort	427840	60547	14.1500

CloudShell Feedback Language

© 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

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 atm_data.fact_atm_trans f, atm_data.dim_atm a, atm_data.dim_location l,
atm_data.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;
```



Query 1585

Completed, started on July 23, 2023 at 01:09:56
ELAPSED TIME: 00 m 08 s

Rows returned (10)

atm_number	atm_manufacturer	location	weekend_flag	total_transaction_count
1	NCR	NÄrfÄstved	0	32711
1	NCR	NÄrfÄstved	1	10076
10	NCR	NÄrfÄ, resundby	0	41667
10	NCR	NÄrfÄ, resundby	1	12127
100	NCR	Intern Skive	0	17812
100	NCR	Intern Skive	1	1
101	NCR	Bryggen Vejle	0	11693
101	NCR	Bryggen Vejle	1	3247
102	NCR	Aalborg Storcenter Afd	0	14556
102	NCR	Aalborg Storcenter Afd	1	3741

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

```
select a.atm_number, a.atm_manufacturer, l.location, d.weekday,
count(trans_id) as total_transaction_count
from atm_data.fact_atm_trans f inner join atm_data.dim_atm a on f.atm_id =
a.atm_id
inner join atm_data.dim_location l on a.atm_location_id = l.location_id
inner join atm_data.dim_date d on f.date_id = d.date_id
where l.location = 'Vejgaard' and d.weekday in
( select d.weekday
from atm_data.fact_atm_trans f inner join atm_data.dim_date d
on f.date_id = d.date_id
inner join atm_data.dim_location l on f.weather_loc_id = l.location_id
where l.location = 'Vejgaard'
group by d.weekday
order by count(f.trans_id) desc
limit 1 )
group by a.atm_number, a.atm_manufacturer, l.location, d.weekday
order by total_transaction_count;
```

The screenshot shows the AWS Redshift console interface. On the left, there's a sidebar with a search bar and a list of tables: dim_atm_pkey, dim_card_type_pkey, dim_date_pkey, dim_location_pkey, fact_atm_trans_pkey, dim_atm, dim_card_type, dim_date, dim_location, and fact_atm_trans. The main area displays a SQL query in a text editor. Below the query, there are buttons for 'Run', 'Save', 'Schedule', and 'Clear'. The 'Query results' tab is selected, showing the execution status: 'Completed, started on July 23, 2023 at 01:12:15' and 'ELAPSED TIME: 00 m 19 s'. The results are displayed in a table with 5 columns: atm_number, atm_manufacturer, location, weekday, and total_transaction_count. There are 2 rows returned.

atm_number	atm_manufacturer	location	weekday	total_transaction_count
103	Diebold Nixdorf	Vejgaard	Friday	4757
2	NCR	Vejgaard	Friday	6290