1. **What are the top 5 brands by receipts scanned for most recent month?**
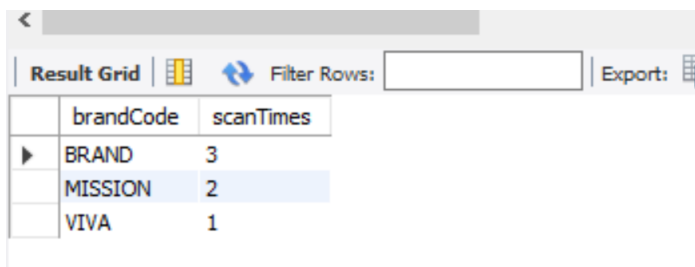
```
select brandCode, count(receiptId) as scanTimes from
(
        select receipts.receiptId as receiptId, brandCode from receiptitemlist
        inner join receipts on receiptitemlist.receiptId = receipts.receiptId
        where receiptitemlist.brandCode is not null
        and receipts.scanDate between '2021-02-01 00:00:00' and '2021-03-01 00:00:00'
)t1
group by brandCode
order by count(t1.receiptId) desc
limit 5
;
```
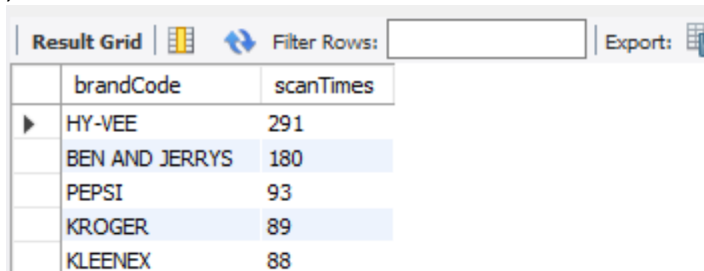
brandCode	scanTimes
BRAND	3
MISSION	2
VIVA	1

There are only 6 results in Feb and the top 3 brands are BRAND, MISSION, VIVA.

2. **How does the ranking of the top 5 brands by receipts scanned for the recent month compare to the ranking for the previous month?**

```
select brandCode, count(receiptId) as scanTimes from
(
        select receipts.receiptId as receiptId, brandCode from receiptitemlist
        inner join receipts on receiptitemlist.receiptId = receipts.receiptId
        where receiptitemlist.brandCode is not null
        and receipts.scanDate between '2021-01-01 00:00:00' and '2021-02-01 00:00:00'
)t1
group by brandCode
order by count(t1.receiptId) desc
limit 5
;
```
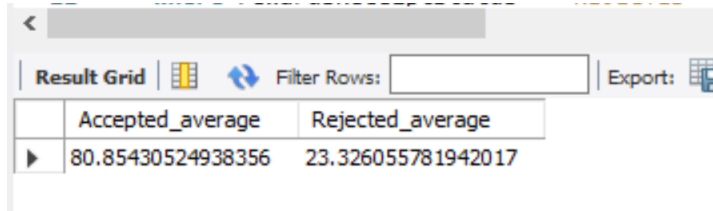
brandCode	scanTimes
HY-VEE	291
BEN AND JERRYS	180
PEPSI	93
KROGER	89
KLEENEX	88

The top 5 brands in Jan are HY-VEE, BEN AND JERRYS, PEPSI, KROGER, and KLEENEX.

3. **When considering average spend from receipts with 'rewardsReceiptStatus' of 'Accepted' or 'Rejected', which is greater?**

select avg(case when rewardsReceiptStatus = 'FINISHED' then totalSpent end) as Accepted_average,
avg(case when rewardsReceiptStatus = 'REJECTED' then totalSpent end) as Rejected_average
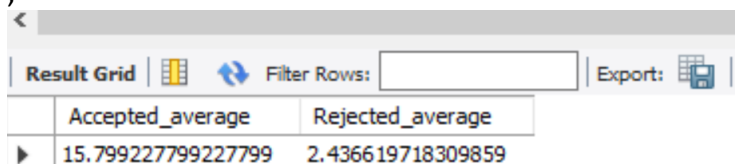from receipts
;

Accepted_average	Rejected_average
80.85430524938356	23.326055781942017

The accepted average spend is around 80.85 which is greater than rejected average spend.

4. **When considering total number of items purchased from receipts with 'rewardsReceiptStatus' of 'Accepted' or 'Rejected', which is greater?**

select avg(case when rewardsReceiptStatus = 'FINISHED' then purchasedItemCount end) as Accepted_average,
avg(case when rewardsReceiptStatus = 'REJECTED' then purchasedItemCount end) as Rejected_average
from receipts
;

Accepted_average	Rejected_average
15.799227799227799	2.436619718309859

The total number of items purchased from accepted rewards receipts is 15.80 which is greater than that from rejected rewards receipts.

5. **Which brand has the most spend among users who were created within the past 6 months?**

select brandCode, sum(finalPrice) as total_spend from(
        select brandCode, finalPrice from receipts
        inner join receiptitemlist on receipts.receiptId = receiptitemlist.receiptId
        inner join users on receipts.userId = users.userId
        where users.createdDate between current_date() - interval 6 month and current_date()
        and brandCode is not null

```
)t1
group by brandCode
order by sum(finalPrice) desc
limit 1
;
```

brandCode	total_spend
BEN AND JERRYS	1217.4000000953674
HEMPLER'S	800.5500018596649
CRACKER BARREL	703.4999847412109
HY-VEE	656.6199933290482
KNORR	543.3200006484985

BEN AND JERRYS has the most spend among users who were created within the past 6 months.

6. Which brand has the most transactions among users who were created within the past 6 months?

```
select brandCode, count(1) as transactions from(
        select brandCode, finalPrice from receipts
        inner join receiptitemlist on receipts.receiptId = receiptitemlist.receiptId
        inner join users on receipts.userId = users.userId
        where users.createdDate between current_date() - interval 6 month and current_date()
        and brandCode is not null
)t1
group by brandCode
order by count(1) desc
limit 1
;
```

brandCode	transactions
HY-VEE	291
BEN AND JERRYS	100
PEPSI	74
KLEENEX	70
KNORR	60

HY-VEE has the most transactions among users who were created within the past 6 months.