```
/*

select * from [dbo].[user];
select * from [dbo].[transaction];
select * from [dbo].[products];

*/

-----------------------------------
-- Who are Fetch's power users?
-----------------------------------

/*

-- Here I am making assumption the power users are those who have made the highest number
of transactions.
-- Or can also say power users are those who have made the highest number of purchases
and spent the most money

-- finding the top 10 power users of Fetch based on the above assumption

*/

select top 10 u.id, sum(t.final_sale) as total_spent, count(t.receipt_id) as
total_transations
from [dbo].[transaction] t
left outer join [dbo].[user] u on t.user_id = u.id
where u.id is not NULL -- not picking records which users do not exist in the user table
group by u.id
order by total_spent desc, total_transations desc;

/* result
```

```
id                          total_spent     total_transations
643059f0838dd2651fb27f50    76              2
62ffec490d9dbaff18c0a999    27              3
5f4c9055e81e6f162e3f6fa8    19              1
5d191765c8b1ba28e74e8463    17              1
61a58ac49c135b462ccddd1c    15              3
5fd4fb485f410d44bae3a776    15              1
6351760a3a4a3534d9393ecd    14              2
5fc12a8a16770448f92e56b8    14              2
632fc9dc0c625b72ae991f83    14              2
646bdaa67a342372c857b958    13              3

*/
```

```sql
select top 10 u.id, sum(t.final_sale) as total_spent, count(t.receipt_id) as total_transations
from [dbo].[transaction] t
left outer join [dbo].[user] u on t.user_id = u.id
where u.id is not NULL -- not picking records which users are not existed in the user table
group by u.id
order by total_spent desc, total_transations desc;
```

Results | Messages

	id	total_spent	total_trans…
1	643059f0838dd2651fb27f50	76	2
2	62ffec490d9dbaff18c0a999	27	3
3	5f4c9055e81e6f162e3f6fa8	19	1
4	5d191765c8b1ba28e74e8463	17	1
5	61a58ac49c135b462ccddd1c	15	3
6	5fd4fb485f410d44bae3a776	15	1
7	5fc12a8a16770448f92e56b8	14	2
8	6351760a3a4a3534d9393ecd	14	2
9	632fc9dc0c625b72ae991f83	14	2
1…	646bdaa67a342372c857b958	13	3

```
-------------------------------------------------------------------------
-- Which is the leading brand in the Dips & Salsa category?
-------------------------------------------------------------------------

-- first checking in which category '%dips & salsa%' is existed

select distinct category_1, category_2, category_3, category_4
from [dbo].[products]
where category_1 like '%dips & salsa%'
      or category_2 like '%dips & salsa%'
      or category_3 like '%dips & salsa%'
      or category_4 like '%dips & salsa%';

-- filtering on category_2

select top 1 p.brand, sum(t.final_sale) as total_sales, p.category_2
from [dbo].[transaction] t
left outer join [dbo].[products] p on t.barcode = p.barcode
where p.category_2 like '%dips & salsa%'
group by p.brand, p.category_1, category_2
order by total_sales desc;


/*

result

brand       total_sales     category_2
TOSTITOS    182             Dips & Salsa

*/
```

```sql
select top 1 p.brand, sum(t.final_sale) as total_sales, p.category_2
from [dbo].[transaction] t
left outer join [dbo].[products] p on t.barcode = p.barcode
where p.category_2 like '%dips & salsa%'
group by p.brand, p.category_1, category_2
order by total_sales desc;


/*
```

Results | Messages

	brand	total_sales	category_2
1	TOSTITOS	182	Dips & Salsa

```sql
-----------------------------------------------------------------------
-- At what percent has Fetch grown year over year?
-----------------------------------------------------------------------

-- Assumption: According to the company's background to find the growth of the company
yearly, need to find how many users are created in the system yearly.

with yearly_user_counts as (
    select
        year(created_date) as year,
        count(distinct id) as total_users
    from [dbo].[user]
    group by year(created_date)
)
select
    year,
    total_users,
```

```sql
    (total_users - lag(total_users) over (order by year)) * 100.0
    / nullif(lag(total_users) over (order by year), 0) as growth_rate
from yearly_user_counts
order by year;


/*

result

year    total_users     growth_rate
2014    30               NULL
2015    51               70.000000000000
2016    70               37.254901960784
2017    645              821.428571428571
2018    2171             236.589147286821
2019    7093             226.715799170888
2020    16889            138.107993796700
2021    19169            13.499911184794
2022    26809            39.856017528300
2023    15453            -42.358909321496
2024    11620            -24.804245130395

*/
```

```sql
-- Assumption: According to the company's background to find the growth of the
with yearly_user_counts as (
    select
        year(created_date) as year,
        count(distinct id) as total_users
    from [dbo].[user]
    group by year(created_date)
)
select
    year,
    total_users,
    (total_users - lag(total_users) over (order by year)) * 100.0
    / nullif(lag(total_users) over (order by year), 0) as growth_rate
from yearly_user_counts
order by year;
```

Results | Messages

	year	total_users	growth_rate
1	2014	30	*NULL*
2	2015	51	70.000000000000
3	2016	70	37.254901960784
4	2017	645	821.428571428571
5	2018	2171	236.589147286821
6	2019	7093	226.715799170888
7	2020	16889	138.107993796700
8	2021	19169	13.499911184794
9	2022	26809	39.856017528300
10	2023	15453	-42.358909321496
11	2024	11620	-24.804245130395