```sql
use Commercial_Project

-- 1) Show Total Transactions, Total Profit, Profit Margin by Product_Brand

select p.product_brand, COUNT(t.transaction_date) AS number_of_transactions, ROUND(SUM(t.profit),0) AS
total_profit,
-- CAST(SUM(profit) / SUM(revenue) AS decimal(10,2)) * 100 AS profit_margin
CAST(SUM(t.profit) / SUM(t.quantity * p.product_retail_price) AS decimal(10,2)) * 100 AS profit_margin
from Transaction_Data t
inner join Products p on t.product_id = p.product_id
group by p.product_brand

-- Show the top 30 product brands, then sort descending by Total Transactions

select TOP 30
p.product_brand, COUNT(t.transaction_date) AS number_of_transactions, ROUND(SUM(t.profit),0) AS total_profit,
-- CAST(SUM(profit) / SUM(revenue) AS decimal(10,2)) * 100 AS profit_margin
CAST(SUM(t.profit) / SUM(t.quantity * p.product_retail_price) AS decimal(10,2)) * 100 AS profit_margin
from Transaction_Data t
inner join Products p on t.product_id = p.product_id
group by p.product_brand
order by COUNT(t.transaction_date) DESC
```

Results | Messages

	product_brand	number_of_transactions	total_profit	profit_margin
1	Hermanos	8071	33167.00	59.00
2	Tell Tale	7694	29926.00	58.00
3	Ebony	7685	29749.00	60.00
4	Tri-State	7438	29065.00	59.00
5	High Top	7153	28503.00	60.00
6	Nationeel	6499	27446.00	60.00
7	Fast	6188	24747.00	61.00
8	Fort West	6175	23951.00	60.00
9	Horatio	6121	25589.00	58.00
10	Best Choice	6000	25901.00	61.00
11	Sunset	5856	20803.00	60.00

Query executed successfully.

```sql
-- Show total transactions by start of month

select DATETRUNC(MONTH, c.date) AS start_of_month, COUNT(transaction_date) AS number_of_transactions from
Transaction_Data t
inner join calendar c on c.date = t.transaction_date
group by DATETRUNC(MONTH, c.date)
```

Results | Messages

	start_of_month	number_of_transactions
1	1997-01-01	7034
2	1997-02-01	6844
3	1997-03-01	7710
4	1997-04-01	6590
5	1997-05-01	6866
6	1997-06-01	6912
7	1997-07-01	7752
8	1997-08-01	7038
9	1997-09-01	6663
10	1997-10-01	6479
11	1997-11-01	8232

Query executed successfully.

```sql
-- Show Total Transactions by store city and country

select COUNT(t.transaction_date) AS number_of_transactions, s.store_country, s.store_city from
Transaction_Data t
inner join Stores s on s.store_id = t.store_id
```

```
group by s.store_country, s.store_city

-- Show Total transactions by store country and store_city
-- Window function OVER() clause

select CONCAT_WS(' ', c.first_name, c.last_name) AS customer_full_name, s.store_country, s.store_city,
t.transaction_date,
COUNT(t.transaction_date) OVER() AS overall_number_of_transactions,
COUNT(t.transaction_date) OVER(PARTITION BY s.store_country, s.store_city) AS
store_country_city_number_of_transactions
from Transaction_Data t
inner join Stores s on s.store_id = t.store_id
left join Customers c on c.customer_id = t.customer_id
```

Results | Messages

	customer_full_name	store_country	store_city	transaction_date	overall_number_of_transactions	store_country_city_number_of_transactions
1	C Rutherford	Canada	Vancouver	1998-01-05	269720	12770
2	A Smith	Canada	Vancouver	1998-01-05	269720	12770
3	C Batt	Canada	Vancouver	1998-01-05	269720	12770
4	M Lique	Canada	Vancouver	1998-01-05	269720	12770
5	C Batt	Canada	Vancouver	1998-01-05	269720	12770
6	C Rutherford	Canada	Vancouver	1998-01-05	269720	12770
7	B McMenama	Canada	Vancouver	1998-01-05	269720	12770
8	R Beret	Canada	Vancouver	1998-01-05	269720	12770
9	K Cleary	Canada	Vancouver	1998-01-05	269720	12770
10	R Beret	Canada	Vancouver	1998-01-05	269720	12770
11	S Anderson	Canada	Vancouver	1998-01-05	269720	12770

```
-- Pull the weekly revenue trending. Only show data for 1998

select DATETRUNC(WEEK, c.Date) AS start_of_week, ROUND(SUM(t.quantity * p.product_retail_price),0) AS
total_revenue
from Transaction_Data t
left join Calendar c on t.transaction_date = c.Date
left join Products p on p.product_id = t.product_id
where DATEPART(YEAR, c.Date) = 1998
group by DATETRUNC(WEEK, c.Date)
order by DATETRUNC(WEEK, c.Date) ASC
```

Results | Messages

	start_of_week	total_revenue
2	1998-01-04	26575.00
3	1998-01-11	30621.00
4	1998-01-18	20943.00
5	1998-01-25	11902.00
6	1998-02-01	27514.00
7	1998-02-08	27773.00
8	1998-02-15	20022.00
9	1998-02-22	19189.00
10	1998-03-01	22763.00
11	1998-03-08	22096.00
12	1998-03-15	25433.00

Query executed successfully.

```
-- Pull the Top Customer in terms of Total Revenue and Total Orders - Optional Question
```

```
-- Pull the Top Customer in terms of Total Revenue and Total Transactions - Optional Question

select TOP 1
t.customer_id, COUNT(t.transaction_date) AS number_of_transactions, SUM(t.quantity * p.product_retail_price) AS total_revenue
from Transaction_Data t
inner join Products p on p.product_id = t.product_id
group by t.customer_id
order by total_revenue DESC
```

100 %

Results | Messages

	customer_id	number_of_transactions	total_revenue
1	5295	290	2235.43