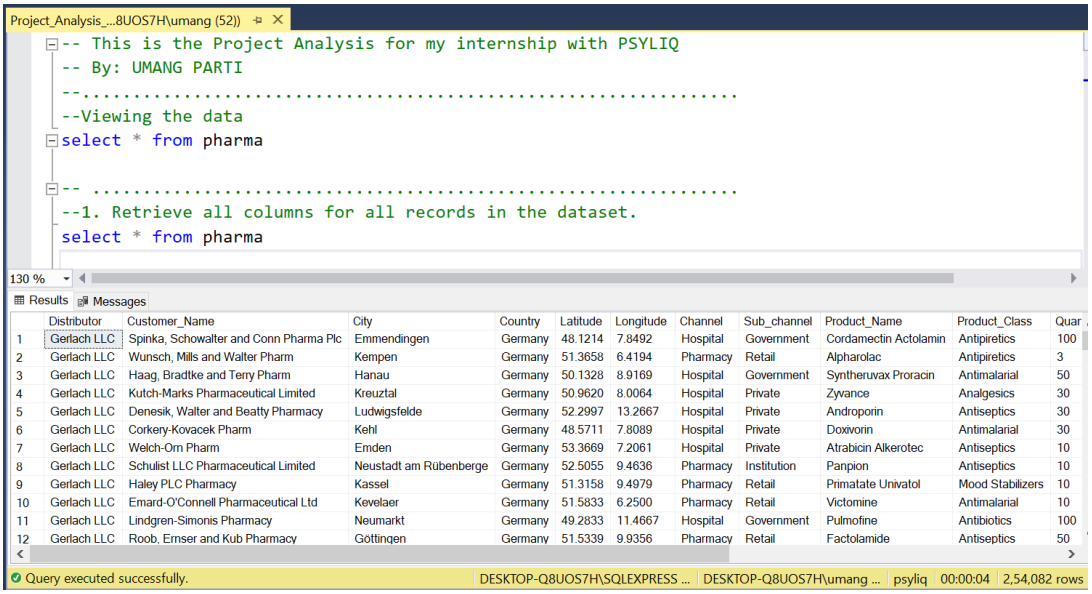
Project- 3

```sql
-- This is the Project Analysis for my internship with PSYLIQ
-- By: UMANG PARTI
--.....................................................................
--Viewing the data
select * from pharma
```



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```sql
-- This is the Project Analysis for my internship with PSYLIQ
-- By: UMANG PARTI
--.....................................................................
--Viewing the data
select * from pharma

-- .....................................................................
--1. Retrieve all columns for all records in the dataset.
select * from pharma
```

130 %

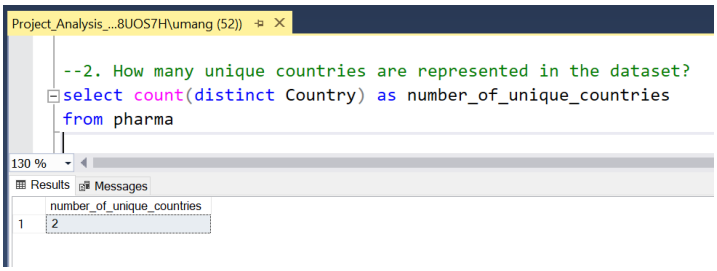
Results | Messages

	Distributor	Customer_Name	City	Country	Latitude	Longitude	Channel	Sub_channel	Product_Name	Product_Class	Quar
1	Gerlach LLC	Spinka, Schowalter and Conn Pharma Plc	Emmendingen	Germany	48.1214	7.8492	Hospital	Government	Cordamectin Actolamin	Antipiretics	100
2	Gerlach LLC	Wunsch, Mills and Walter Pharm	Kempen	Germany	51.3658	6.4194	Pharmacy	Retail	Alpharolac	Antipiretics	3
3	Gerlach LLC	Haag, Bradtke and Terry Pharm	Hanau	Germany	50.1328	8.9169	Hospital	Government	Syntheruvax Proracin	Antimalarial	50
4	Gerlach LLC	Kutch-Marks Pharmaceutical Limited	Kreuztal	Germany	50.9620	8.0064	Hospital	Private	Zyvance	Analgesics	30
5	Gerlach LLC	Denesik, Walter and Beatty Pharmacy	Ludwigsfelde	Germany	52.2997	13.2667	Hospital	Private	Androporin	Antiseptics	30
6	Gerlach LLC	Corkery-Kovacek Pharm	Kehl	Germany	48.5711	7.8089	Hospital	Private	Doxivorin	Antimalarial	30
7	Gerlach LLC	Welch-Orn Pharm	Emden	Germany	53.3669	7.2061	Hospital	Private	Atrabicin Alkerotec	Antiseptics	10
8	Gerlach LLC	Schulist LLC Pharmaceutical Limited	Neustadt am Rübenberge	Germany	52.5055	9.4636	Pharmacy	Institution	Panpion	Antiseptics	10
9	Gerlach LLC	Haley PLC Pharmacy	Kassel	Germany	51.3158	9.4979	Pharmacy	Retail	Primatate Univatol	Mood Stabilizers	10
10	Gerlach LLC	Emard-O'Connell Pharmaceutical Ltd	Kevelaer	Germany	51.5833	6.2500	Pharmacy	Retail	Victomine	Antimalarial	10
11	Gerlach LLC	Lindgren-Simonis Pharmacy	Neumarkt	Germany	49.2833	11.4667	Hospital	Government	Pulmofine	Antibiotics	100
12	Gerlach LLC	Roob, Ernser and Kub Pharmacy	Göttingen	Germany	51.5339	9.9356	Pharmacy	Retail	Factolamide	Antiseptics	50

Query executed successfully. | DESKTOP-Q8UOS7H\SQLEXPRESS ... | DESKTOP-Q8UOS7H\umang ... | psyliq | 00:00:04 | 2,54,082 rows

```sql
-- .....................................................................
--1. Retrieve all columns for all records in the dataset.
select * from pharma

--2. How many unique countries are represented in the dataset?
select count(distinct Country) as number_of_unique_countries
from pharma
```



Project_Analysis_...8UOS7H\umang (52))

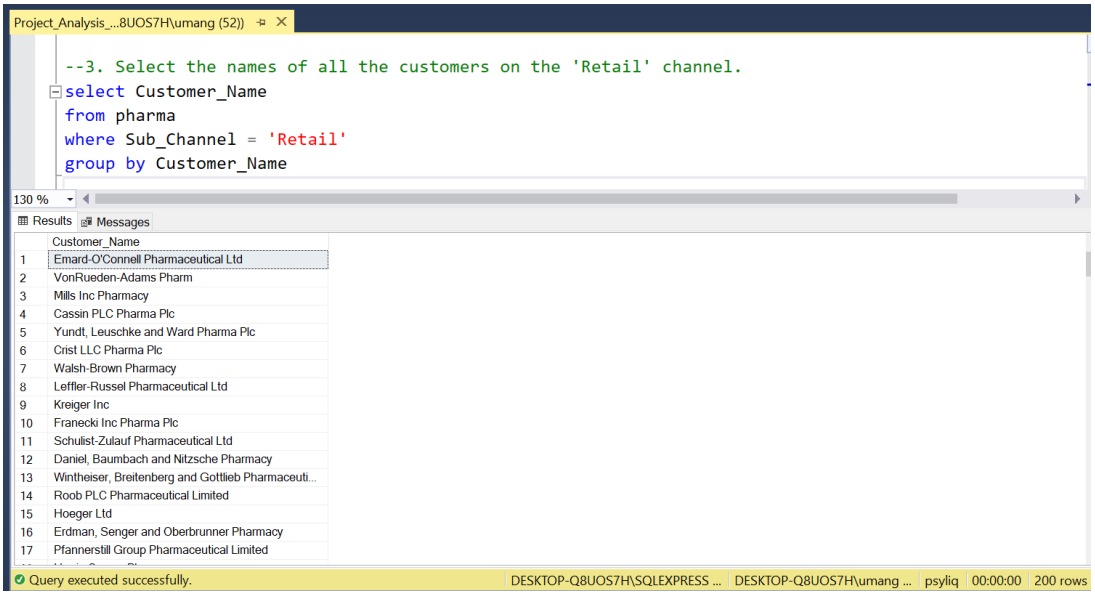
```sql
--2. How many unique countries are represented in the dataset?
select count(distinct Country) as number_of_unique_countries
from pharma
```

130 %

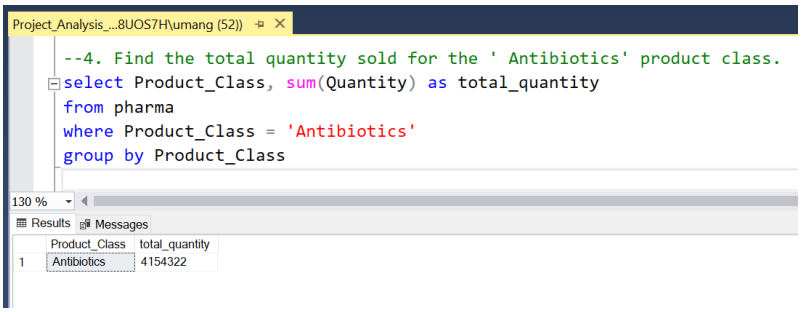
Results | Messages

	number_of_unique_countries
1	2

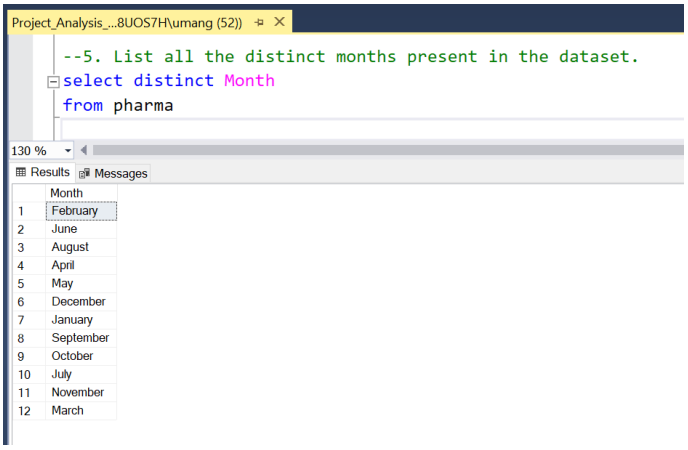
```sql
--3. Select the names of all the customers on the 'Retail' channel.
select Customer_Name
from pharma
where Sub_Channel = 'Retail'
group by Customer_Name
```



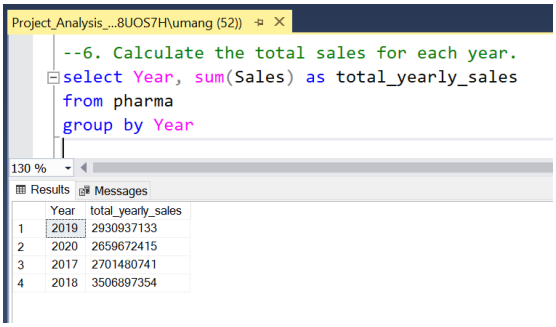

```sql
--4. Find the total quantity sold for the ' Antibiotics' product class.
select Product_Class, sum(Quantity) as total_quantity
from pharma
where Product_Class = 'Antibiotics'
group by Product_Class
```



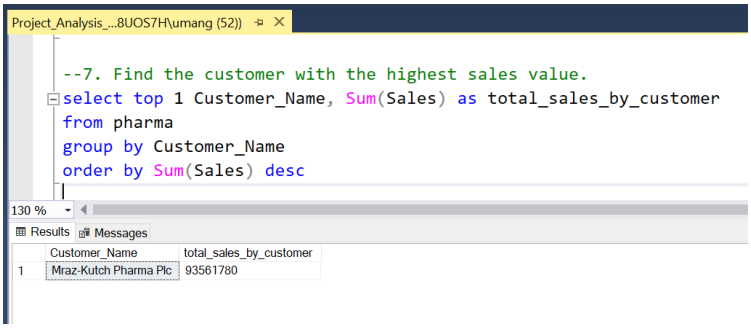

```sql
--5. List all the distinct months present in the dataset.
select distinct Month
from pharma
```



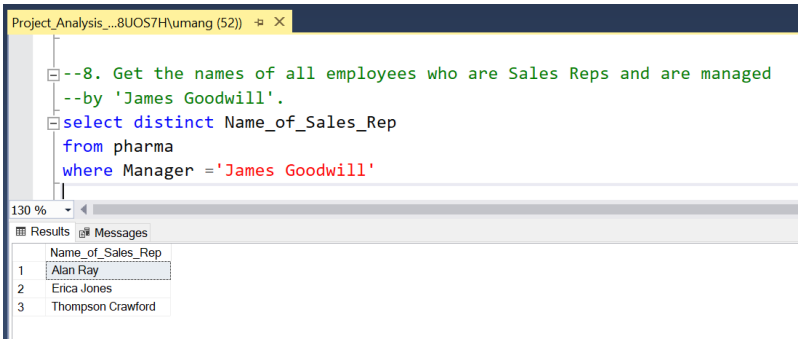

```sql
--6. Calculate the total sales for each year.
select Year, sum(Sales) as total_yearly_sales
from pharma
group by Year
```



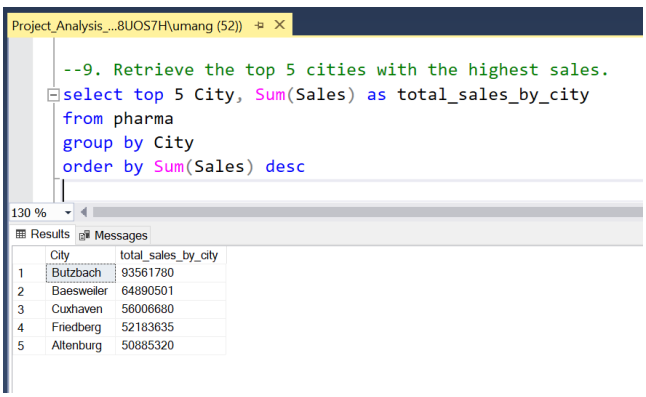

```
--7. Find the customer with the highest sales value.
select top 1 Customer_Name, Sum(Sales) as total_sales_by_customer
from pharma
group by Customer_Name
order by Sum(Sales) desc
```




```
--8. Get the names of all employees who are Sales Reps and are managed
--by 'James Goodwill'.
select distinct Name_of_Sales_Rep
from pharma
where Manager ='James Goodwill'
```

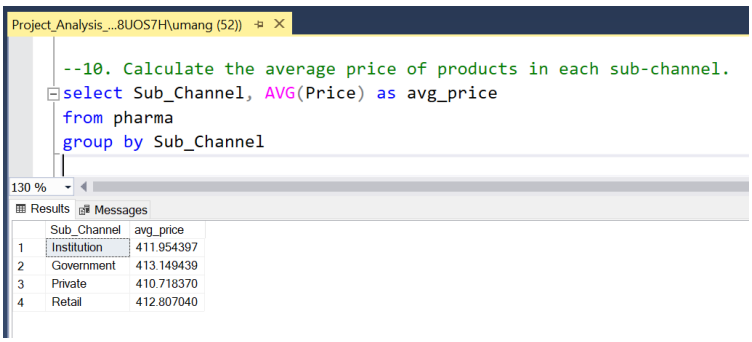



```
--9. Retrieve the top 5 cities with the highest sales.
select top 5 City, Sum(Sales) as total_sales_by_city
from pharma
group by City
order by Sum(Sales) desc
```



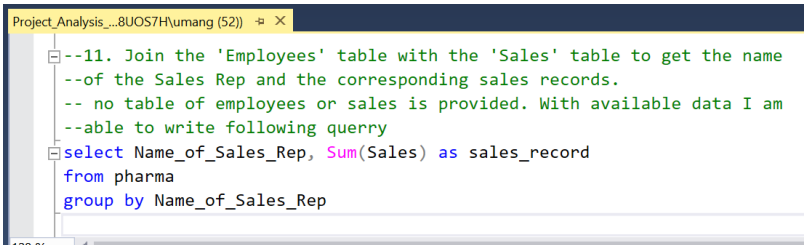

```
--10. Calculate the average price of products in each sub-channel.
```

```sql
select Sub_Channel, AVG(Price) as avg_price
from pharma
group by Sub_Channel
```



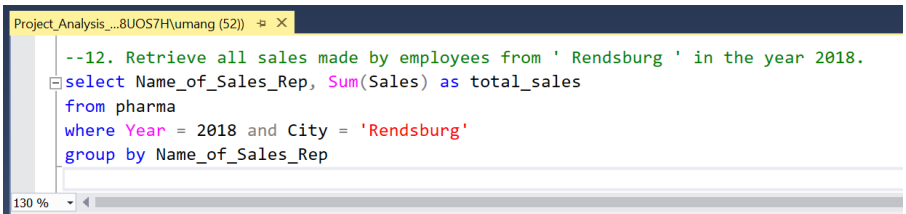
	Sub_Channel	avg_price
1	Institution	411.954397
2	Government	413.149439
3	Private	410.718370
4	Retail	412.807040

```sql
--11. Join the 'Employees' table with the 'Sales' table to get the name
--of the Sales Rep and the corresponding sales records.
-- no table of employees or sales is provided. With available data I am
--able to write following querry
select Name_of_Sales_Rep, Sum(Sales) as sales_record
from pharma
group by Name_of_Sales_Rep
```



	Name_of_Sales_Rep	sales_record
1	Stella Given	888340903
2	Anne Wu	920168302
3	Sheila Stones	958203898
4	Jessica Smith	881698369
5	Alan Ray	842637242
6	Erica Jones	871372192
7	Steve Pepple	875449983
8	Abigail Thompson	981056993
9	Daniel Gates	950658635
10	Morris Garcia	901195483
11	Jimmy Grey	985969994
12	Thompson Crawford	866964886
13	Mary Gerrard	875270763

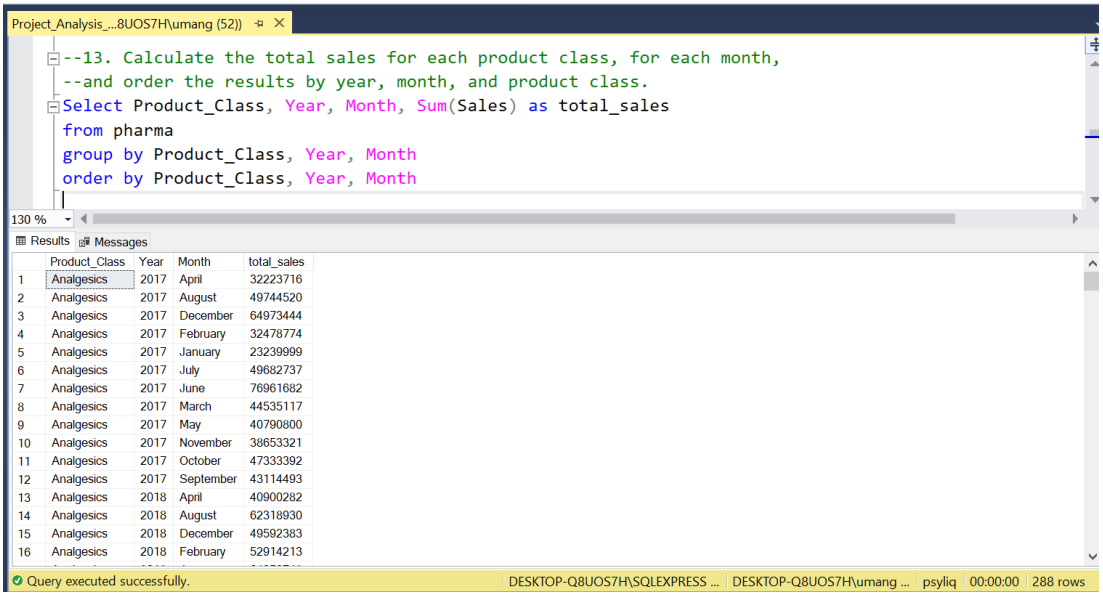
```sql
--12. Retrieve all sales made by employees from ' Rendsburg ' in the year 2018.
select Name_of_Sales_Rep, Sum(Sales) as total_sales
from pharma
where Year = 2018 and City = 'Rendsburg'
group by Name_of_Sales_Rep
```



	Name_of_Sales_Rep	total_sales
1	Abigail Thompson	65022
2	Alan Ray	366832
3	Anne Wu	383869
4	Daniel Gates	49801
5	Erica Jones	980046
6	Jessica Smith	5059318
7	Jimmy Grey	253399
8	Mary Gerrard	74042
9	Morris Garcia	405500
10	Sheila Stones	1581159
11	Stella Given	226347
12	Steve Pepple	1377
13	Thompson Crawford	81915

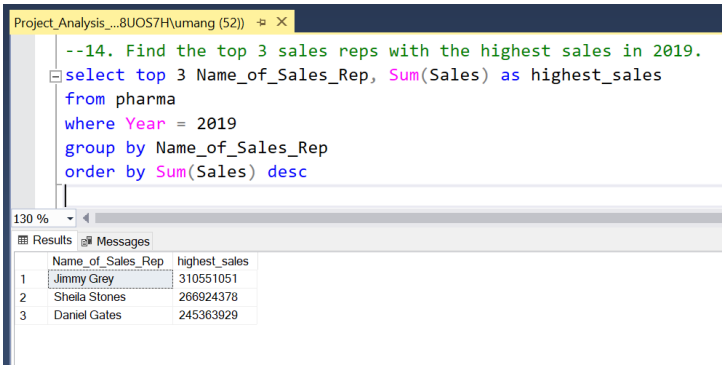
```sql
--13. Calculate the total sales for each product class, for each month,
```

```sql
--and order the results by year, month, and product class.
Select Product_Class, Year, Month, Sum(Sales) as total_sales
from pharma
group by Product_Class, Year, Month
order by Product_Class, Year, Month
```



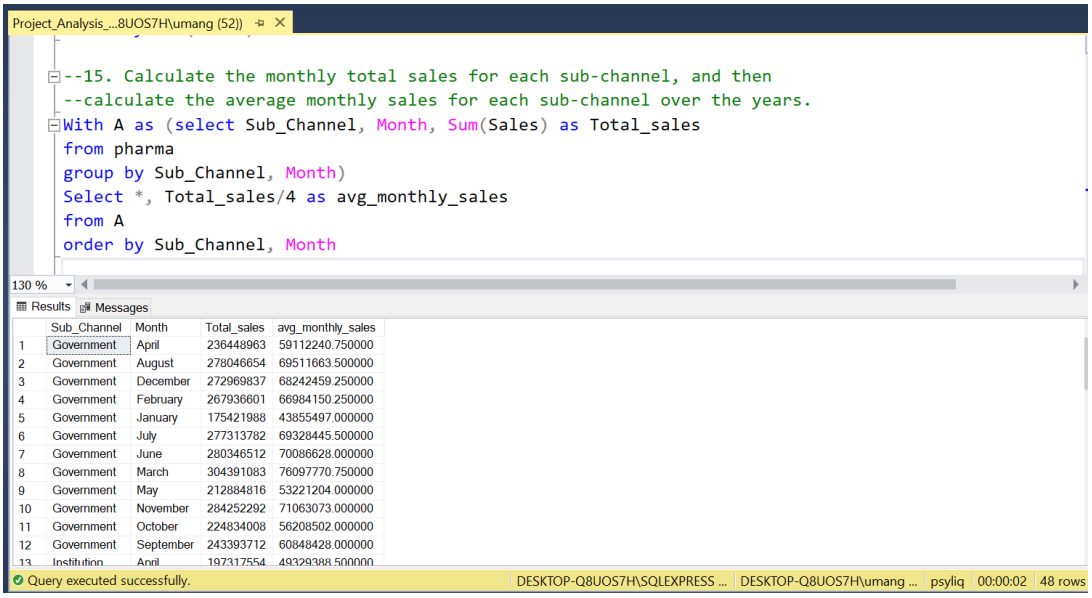
	Product_Class	Year	Month	total_sales
1	Analgesics	2017	April	32223716
2	Analgesics	2017	August	49744520
3	Analgesics	2017	December	64973444
4	Analgesics	2017	February	32478774
5	Analgesics	2017	January	23239999
6	Analgesics	2017	July	49682737
7	Analgesics	2017	June	76961682
8	Analgesics	2017	March	44535117
9	Analgesics	2017	May	40790800
10	Analgesics	2017	November	38653321
11	Analgesics	2017	October	47333392
12	Analgesics	2017	September	43114493
13	Analgesics	2018	April	40900282
14	Analgesics	2018	August	62318930
15	Analgesics	2018	December	49592383
16	Analgesics	2018	February	52914213

```sql
--14. Find the top 3 sales reps with the highest sales in 2019.
select top 3 Name_of_Sales_Rep, Sum(Sales) as highest_sales
from pharma
where Year = 2019
group by Name_of_Sales_Rep
order by Sum(Sales) desc
```

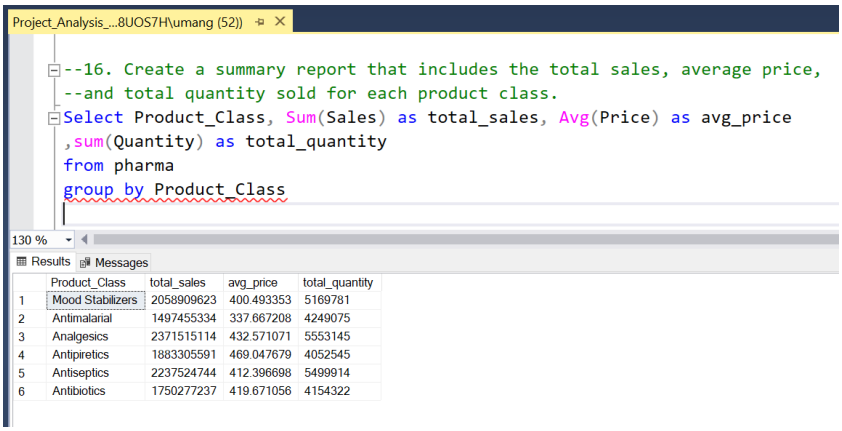


	Name_of_Sales_Rep	highest_sales
1	Jimmy Grey	310551051
2	Sheila Stones	266924378
3	Daniel Gates	245363929

```sql
--15. Calculate the monthly total sales for each sub-channel, and then
--calculate the average monthly sales for each sub-channel over the years.
With A as (select Sub_Channel, Month, Sum(Sales) as Total_sales
from pharma
group by Sub_Channel, Month)
Select *, Total_sales/4 as avg_monthly_sales
from A
order by Sub_Channel, Month
```




```
--16. Create a summary report that includes the total sales, average price,
--and total quantity sold for each product class.
Select Product_Class, Sum(Sales) as total_sales, Avg(Price) as avg_price
,sum(Quantity) as total_quantity
from pharma
group by Product_Class
```




```
--17. Find the top 5 customers with the highest sales for each year.
with A as (select Customer_Name,Year, sum(Sales) as total_sales
,rank() over(partition by Year order by Sum(Sales) desc) as rn
from pharma
group by Customer_Name, Year)
select * from A
where rn <6
```

```
--17. Find the top 5 customers with the highest sales for each year.
with A as (select Customer_Name,Year, sum(Sales) as total_sales
,rank() over(partition by Year order by Sum(Sales) desc) as rn
from pharma
group by Customer_Name, Year)
select * from A
where rn <6
```

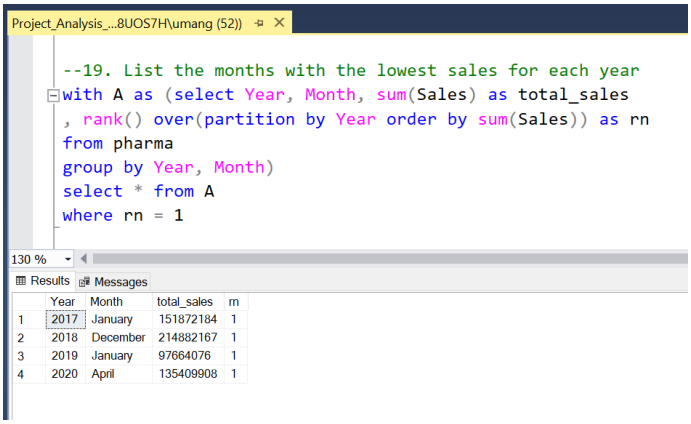
	Customer_Name	Year	total_sales	rn
1	Wiegand, Jast and Yost Pharmaceutical Ltd	2017	20947974	1
2	Raynor-Graham	2017	20691892	2
3	Fadel-West Pharmaceutical Ltd	2017	19381932	3
4	Kuphal, Herzog and Purdy	2017	16707639	4
5	Leannon-West Pharmaceutical Limited	2017	16639689	5
6	Barrows, Zboncak and Reichert Pharm	2018	22713841	1
7	Zemlak Group Pharm	2018	20691357	2
8	Watsica, Larson and Labadie Pharmaceutical Ltd	2018	20200981	3
9	Senger-Kirlin Pharmaceutical Ltd	2018	19949284	4
10	McDermott Inc Pharmacy	2018	19511107	5
11	Mraz-Kutch Pharma Plc	2019	76494324	1
12	Zemlak-Witting	2019	36611325	2
13	Streich PLC	2019	31116982	3
14	Gleichner, Bahringer and Morar Pharmaceutical Lim...	2019	27011286	4
15	Prohaska, Bogisich and Gutkowski Pharmaceutical ...	2019	26786242	5

Query executed successfully. DESKTOP-Q8UOS7H\SQLEXPRESS ... DESKTOP-Q8UOS7H\umang ... psyliq 00:00:00 20 rows

```
--18. Calculate the year-over-year growth in sales for each country.
WITH SalesCTE AS (SELECT Country, Year, Sales
FROM pharma)
SELECT s1.Country, s1.Year AS CurrentYear, s1.Sales AS CurrentYearSales,
s2.Year AS PreviousYear, s2.Sales AS PreviousYearSales,
(s1.Sales - s2.Sales) / s2.Sales * 100 AS YoYGrowthPercentage
FROM SalesCTE s1
JOIN SalesCTE s2 ON s1.Country = s2.Country AND s1.Year = s2.Year + 1
ORDER BY s1.Country, s1.Year;
```

	Country	CurrentYear	CurrentYearSales	PreviousYear	PreviousYearSales	YoYGrowthPercentage
1	Germany	2018	20700	2017	15700	31.847133757961783
2	Germany	2018	2712	2017	15700	-82.726114649681529
3	Germany	2018	5680	2017	15700	-63.821656050955414
4	Germany	2018	3235	2017	15700	-79.394904458598726
5	Germany	2018	8784	2017	15700	-44.050955414012739
6	Germany	2018	4572	2017	15700	-70.878980891719745
7	Germany	2018	330	2017	15700	-97.898089171974522
8	Germany	2018	2235	2017	15700	-85.764331210191083
9	Germany	2018	8172	2017	15700	-47.949044585987261
10	Germany	2018	1131	2017	15700	-92.796178343949045
11	Germany	2018	3664	2017	15700	-76.662420382165605

```
--19. List the months with the lowest sales for each year
with A as (select Year, Month, sum(Sales) as total_sales
, rank() over(partition by Year order by sum(Sales)) as rn
from pharma
group by Year, Month)
select * from A
where rn = 1
```



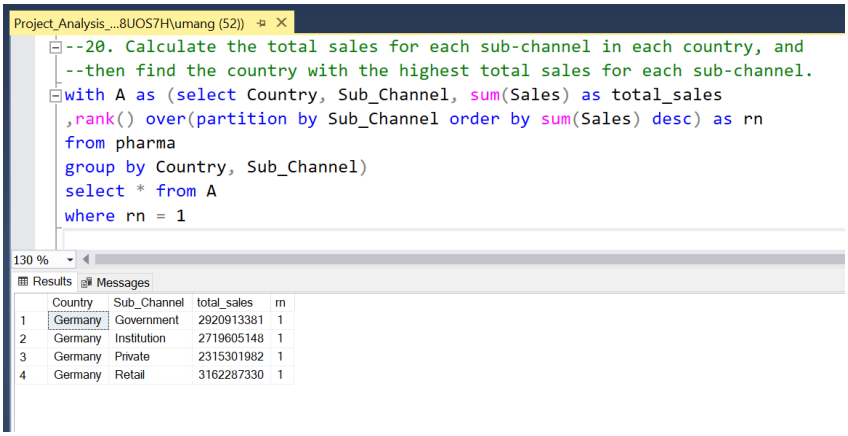
```
--19. List the months with the lowest sales for each year
with A as (select Year, Month, sum(Sales) as total_sales
, rank() over(partition by Year order by sum(Sales)) as rn
from pharma
group by Year, Month)
select * from A
where rn = 1
```

130 %

Results | Messages

	Year	Month	total_sales	rn
1	2017	January	151872184	1
2	2018	December	214882167	1
3	2019	January	97664076	1
4	2020	April	135409908	1

```
--20. Calculate the total sales for each sub-channel in each country, and
--then find the country with the highest total sales for each sub-channel.
with A as (select Country, Sub_Channel, sum(Sales) as total_sales
,rank() over(partition by Sub_Channel order by sum(Sales) desc) as rn
from pharma
group by Country, Sub_Channel)
select * from A
where rn = 1
```



```
--20. Calculate the total sales for each sub-channel in each country, and
--then find the country with the highest total sales for each sub-channel.
with A as (select Country, Sub_Channel, sum(Sales) as total_sales
,rank() over(partition by Sub_Channel order by sum(Sales) desc) as rn
from pharma
group by Country, Sub_Channel)
select * from A
where rn = 1
```

130 %

Results | Messages

	Country	Sub_Channel	total_sales	rn
1	Germany	Government	2920913381	1
2	Germany	Institution	2719605148	1
3	Germany	Private	2315301982	1
4	Germany	Retail	3162287330	1

```
--.....................................................................................
```