Sachin Gupta SQL Evaluation 2

Q1. You are working as an Analyst for an E-commerce company and you have access to the entire database, you are asked to do the below analysis. -22

i. **Identify the total numbers of orders placed for each PaymentID for order placed between "05/02/2020 and 30/04/2020"**

Ans)

```
create database ecommerce_2;

use ecommerce_2;


select * from Orders;

---- i. Identify the total numbers of orders placed for each PaymentID for order
placed between "05/02/2020 and 30/04/2020"

select paymentID, count(orderid) as Total_Orders from orders
group by paymentID, OrderDate
having OrderDate between '05-02-2020' and '30-04-2020'
order by paymentID ASC;
```

ii. **Identify the distinct State and City combinations where the customers belong to.**

Ans)

```
create database commerce;

use  commerce;

select * from


select distinct state,city from Orders;
```

```sql
use commerce;

select * from [Customers (1)];

---- Identify the distinct State and City combinations where the customers belong to.
select distinct state, city from [Customers (1)];
```

100 %

Results | Messages

	state	city
1	Antrim and Newtownabbey	Newtownabbey
2	Arizona	Phoenix
3	Attica	Athens
4	Attica	Piraeus
5	Australian Capital Territory	Canberra
6	Auvergne-Rh♦ne-Alpes	Grenoble
7	Auvergne-Rh♦ne-Alpes	Lyon
8	Auvergne-Rh♦ne-Alpes	Saint-♦tienne
9	Auvergne-Rh♦ne-Alpes	Villeurbanne
10	Basel	Basel
11	Belfast	Belfast
12	Berlin	Berlin
13	Bourgogne-Franche-Comt♦	Dijon
14	Braga	Braga
15	Bremen	Bremen
16	Brittany	Brest
17	Brittany	Rennes
18	Brussels-Capital	Brussels
19	Bucharest	Bucharest

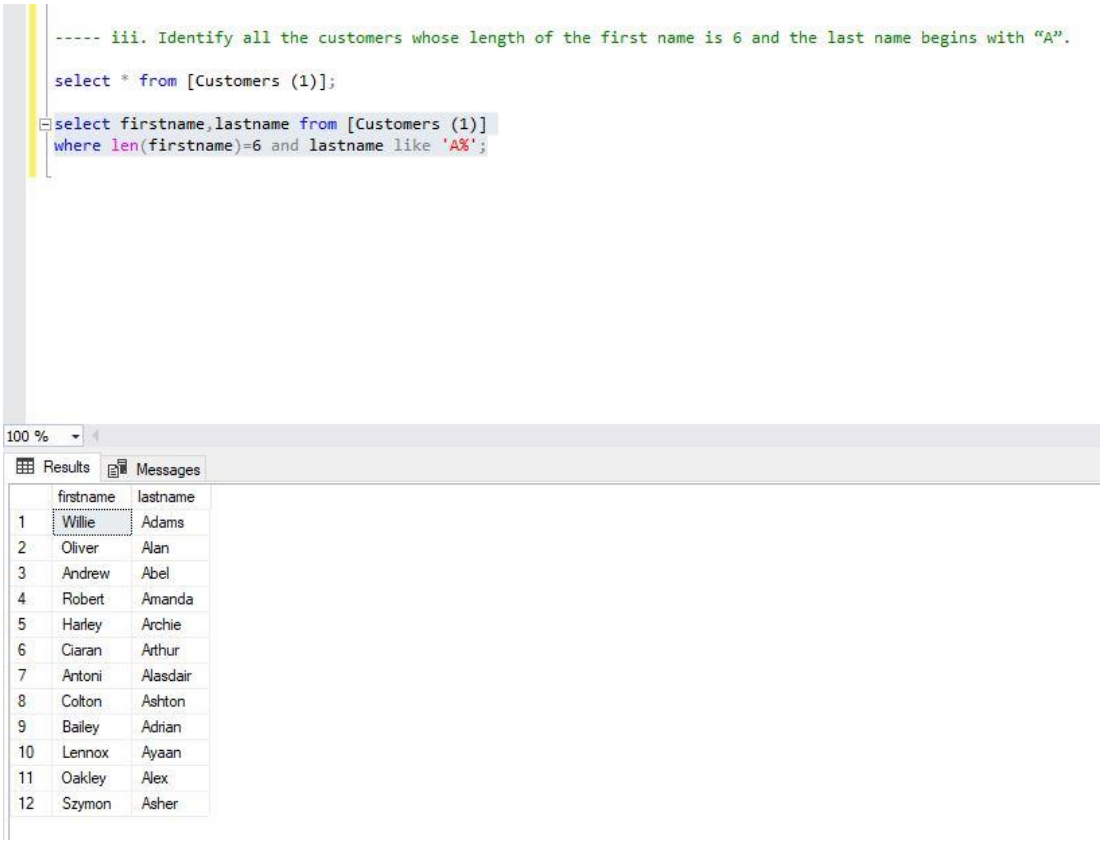
iii. Identify all the customers whose length of the first name is 6 and the last name begins with “A”.

Ans)

```
select * from [Customers (1)];

select firstname,lastname from [Customers (1)]

where len(firstname)=6 and lastname like 'A%';
```



```
----- iii. Identify all the customers whose length of the first name is 6 and the last name begins with “A”.

select * from [Customers (1)];

select firstname,lastname from [Customers (1)]
where len(firstname)=6 and lastname like 'A%';
```

100 %

Results | Messages

	firstname	lastname
1	Willie	Adams
2	Oliver	Alan
3	Andrew	Abel
4	Robert	Amanda
5	Harley	Archie
6	Ciaran	Arthur
7	Antoni	Alasdair
8	Colton	Ashton
9	Bailey	Adrian
10	Lennox	Ayaan
11	Oakley	Alex
12	Szymon	Asher

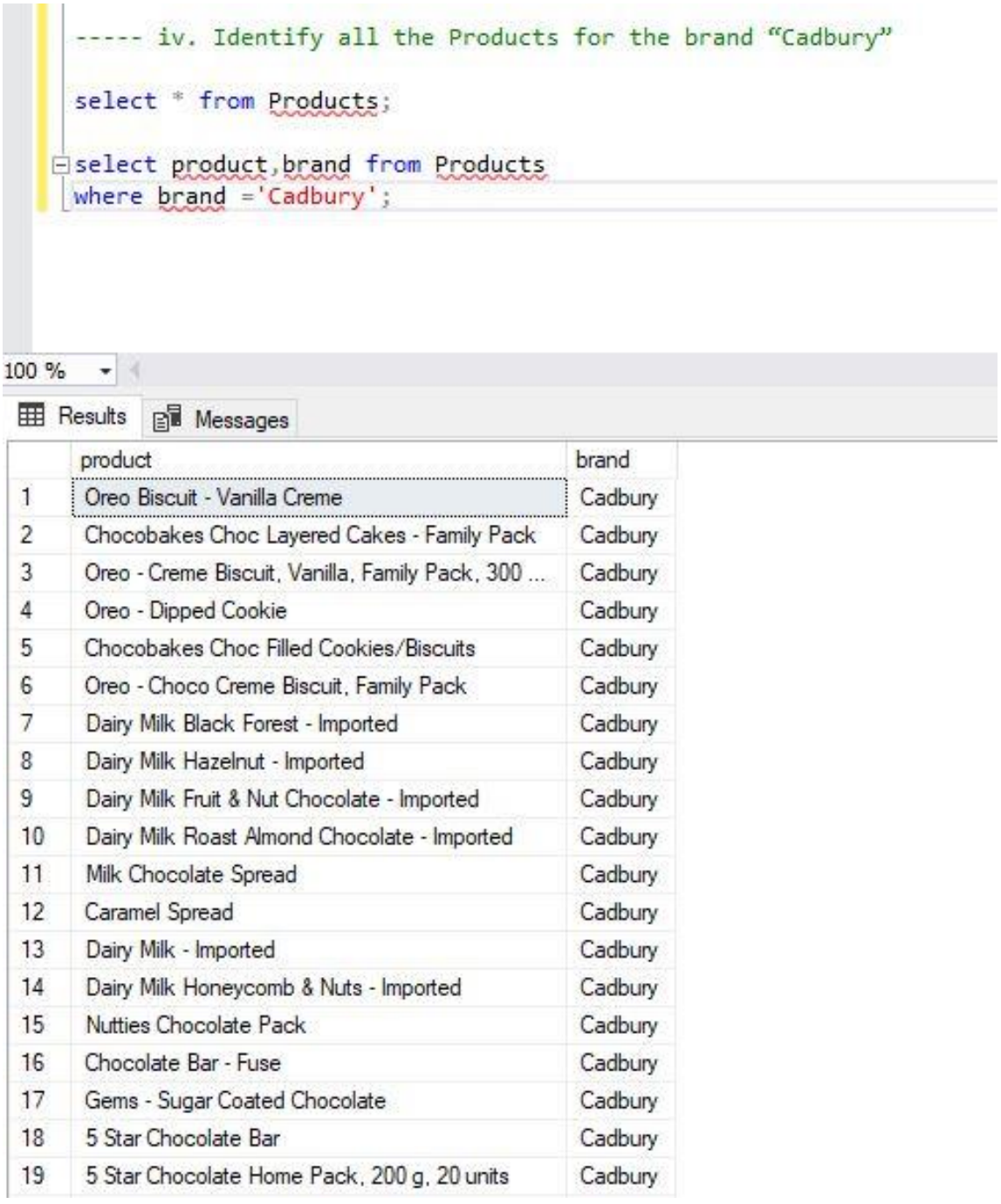
iv. Identify all the Products for the brand “Cadbury”

Ans)

```
select * from Products;

select product,brand from Products

where brand ='Cadbury';
```



```
----- iv. Identify all the Products for the brand “Cadbury”

select * from Products;

select product,brand from Products
where brand ='Cadbury';
```

100 %

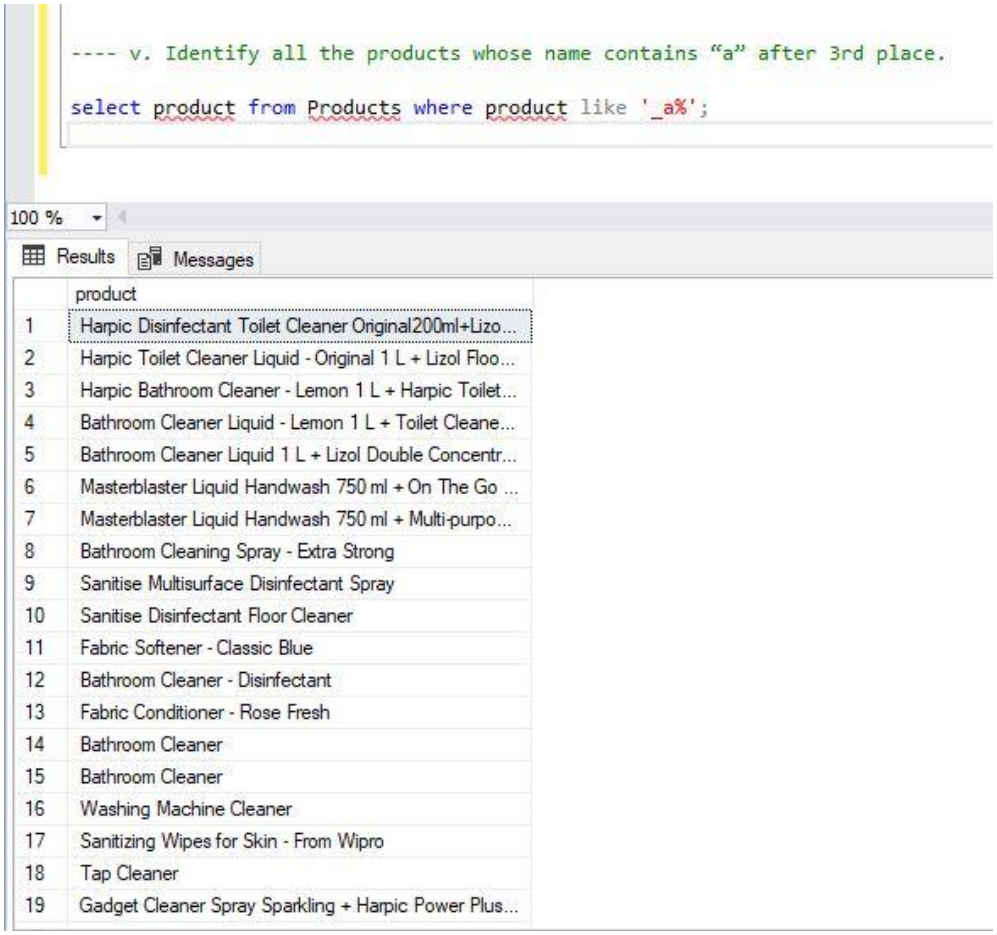
Results | Messages

	product	brand
1	Oreo Biscuit - Vanilla Creme	Cadbury
2	Chocobakes Choc Layered Cakes - Family Pack	Cadbury
3	Oreo - Creme Biscuit, Vanilla, Family Pack, 300 ...	Cadbury
4	Oreo - Dipped Cookie	Cadbury
5	Chocobakes Choc Filled Cookies/Biscuits	Cadbury
6	Oreo - Choco Creme Biscuit, Family Pack	Cadbury
7	Dairy Milk Black Forest - Imported	Cadbury
8	Dairy Milk Hazelnut - Imported	Cadbury
9	Dairy Milk Fruit & Nut Chocolate - Imported	Cadbury
10	Dairy Milk Roast Almond Chocolate - Imported	Cadbury
11	Milk Chocolate Spread	Cadbury
12	Caramel Spread	Cadbury
13	Dairy Milk - Imported	Cadbury
14	Dairy Milk Honeycomb & Nuts - Imported	Cadbury
15	Nutties Chocolate Pack	Cadbury
16	Chocolate Bar - Fuse	Cadbury
17	Gems - Sugar Coated Chocolate	Cadbury
18	5 Star Chocolate Bar	Cadbury
19	5 Star Chocolate Home Pack, 200 g, 20 units	Cadbury

v. Identify all the products whose name contains “a” after 3rd place.

Ans)

```
select product from Products where product like '_a%';
```



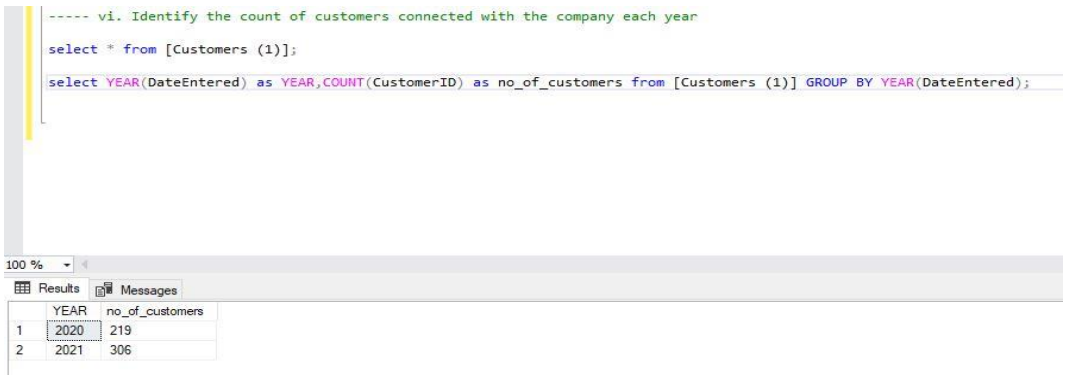
	product
1	Harpic Disinfectant Toilet Cleaner Original200ml+Lizo...
2	Harpic Toilet Cleaner Liquid - Original 1 L + Lizol Floo...
3	Harpic Bathroom Cleaner - Lemon 1 L + Harpic Toilet...
4	Bathroom Cleaner Liquid - Lemon 1 L + Toilet Cleane...
5	Bathroom Cleaner Liquid 1 L + Lizol Double Concentr...
6	Masterblaster Liquid Handwash 750 ml + On The Go ...
7	Masterblaster Liquid Handwash 750 ml + Multi-purpo...
8	Bathroom Cleaning Spray - Extra Strong
9	Sanitise Multisurface Disinfectant Spray
10	Sanitise Disinfectant Floor Cleaner
11	Fabric Softener - Classic Blue
12	Bathroom Cleaner - Disinfectant
13	Fabric Conditioner - Rose Fresh
14	Bathroom Cleaner
15	Bathroom Cleaner
16	Washing Machine Cleaner
17	Sanitizing Wipes for Skin - From Wipro
18	Tap Cleaner
19	Gadget Cleaner Spray Sparkling + Harpic Power Plus...

vi. Identify the count of customers connected with the company each year

Ans)

```
select * from [Customers (1)];

select YEAR(DateEntered) as YEAR,COUNT(CustomerID) as no_of_customers from
[Customers (1)] GROUP BY YEAR(DateEntered);
```

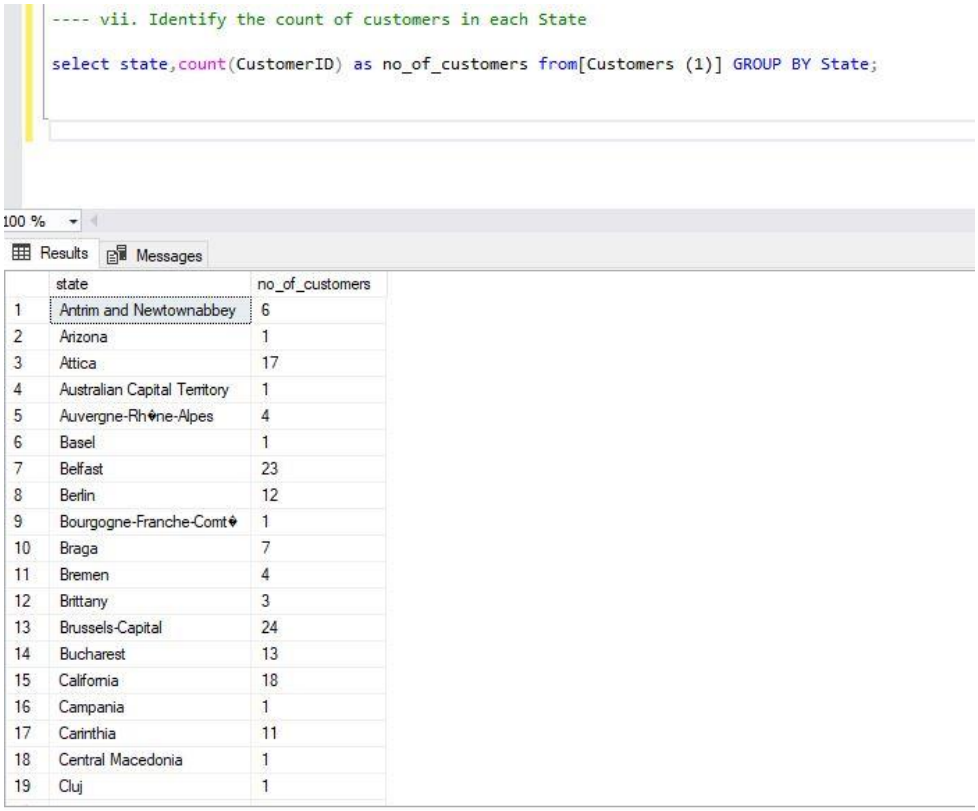


	YEAR	no_of_customers
1	2020	219
2	2021	306

vii. Identify the count of customers in each State

Ans)

```
select state,count(CustomerID) as no_of_customers from[Customers (1)] GROUP BY State;
```



```
---- vii. Identify the count of customers in each State

select state,count(CustomerID) as no_of_customers from[Customers (1)] GROUP BY State;
```

100 %

Results | Messages

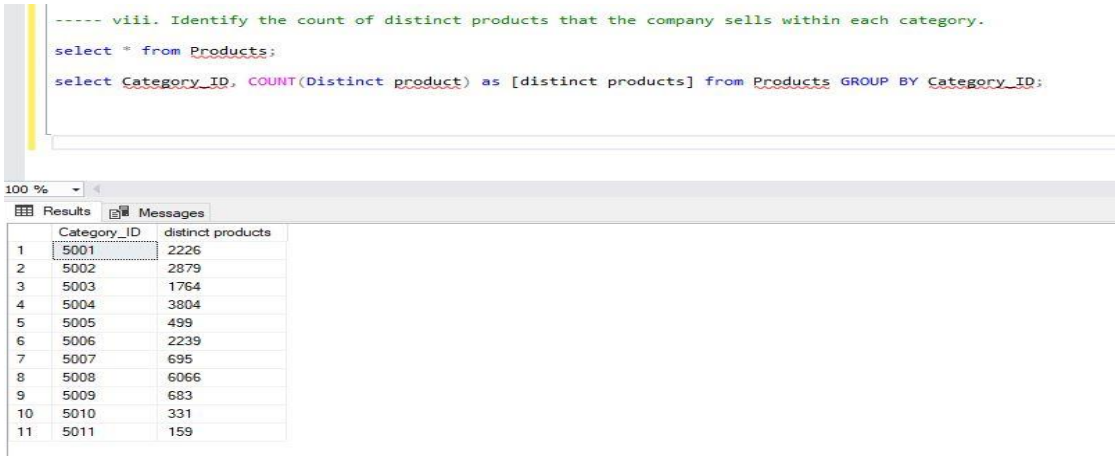
	state	no_of_customers
1	Antrim and Newtownabbey	6
2	Arizona	1
3	Attica	17
4	Australian Capital Territory	1
5	Auvergne-Rh♦ne-Alpes	4
6	Basel	1
7	Belfast	23
8	Berlin	12
9	Bourgogne-Franche-Comt♦	1
10	Braga	7
11	Bremen	4
12	Brittany	3
13	Brussels-Capital	24
14	Bucharest	13
15	California	18
16	Campania	1
17	Carinthia	11
18	Central Macedonia	1
19	Cluj	1

viii. Identify the count of distinct products that the company sells within each category

Ans)

```
select * from Products;

select Category_ID, COUNT(Distinct product) as [distinct products] from Products GROUP BY Category_ID;
```



```
----- viii. Identify the count of distinct products that the company sells within each category.

select * from Products;

select Category_ID, COUNT(Distinct product) as [distinct products] from Products GROUP BY Category_ID;
```

100 %

Results | Messages

	Category_ID	distinct products
1	5001	2226
2	5002	2879
3	5003	1764
4	5004	3804
5	5005	499
6	5006	2239
7	5007	695
8	5008	6066
9	5009	683
10	5010	331
11	5011	159

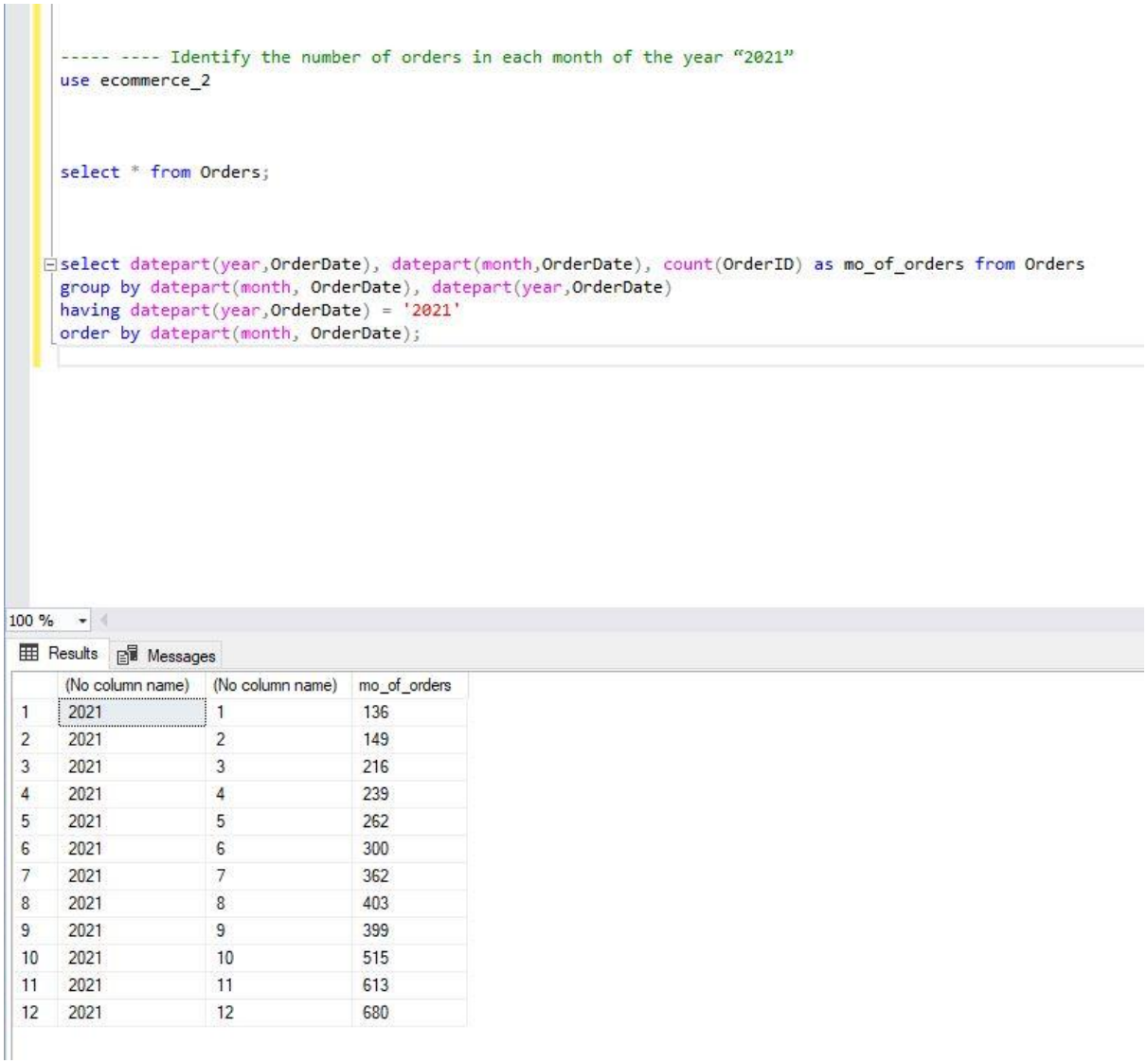
ix. Identify the number of orders in each month of the year “2021”

Ans)

```
use ecommerce_2


select * from Orders;


select datepart(year,OrderDate), datepart(month,OrderDate), count(OrderID) as
mo_of_orders from Orders
group by datepart(month, OrderDate), datepart(year,OrderDate)
having datepart(year,OrderDate) = '2021'
order by datepart(month, OrderDate);
```



```
----- ---- Identify the number of orders in each month of the year “2021”
use ecommerce_2


select * from Orders;


select datepart(year,OrderDate), datepart(month,OrderDate), count(OrderID) as mo_of_orders from Orders
group by datepart(month, OrderDate), datepart(year,OrderDate)
having datepart(year,OrderDate) = '2021'
order by datepart(month, OrderDate);
```

100 %

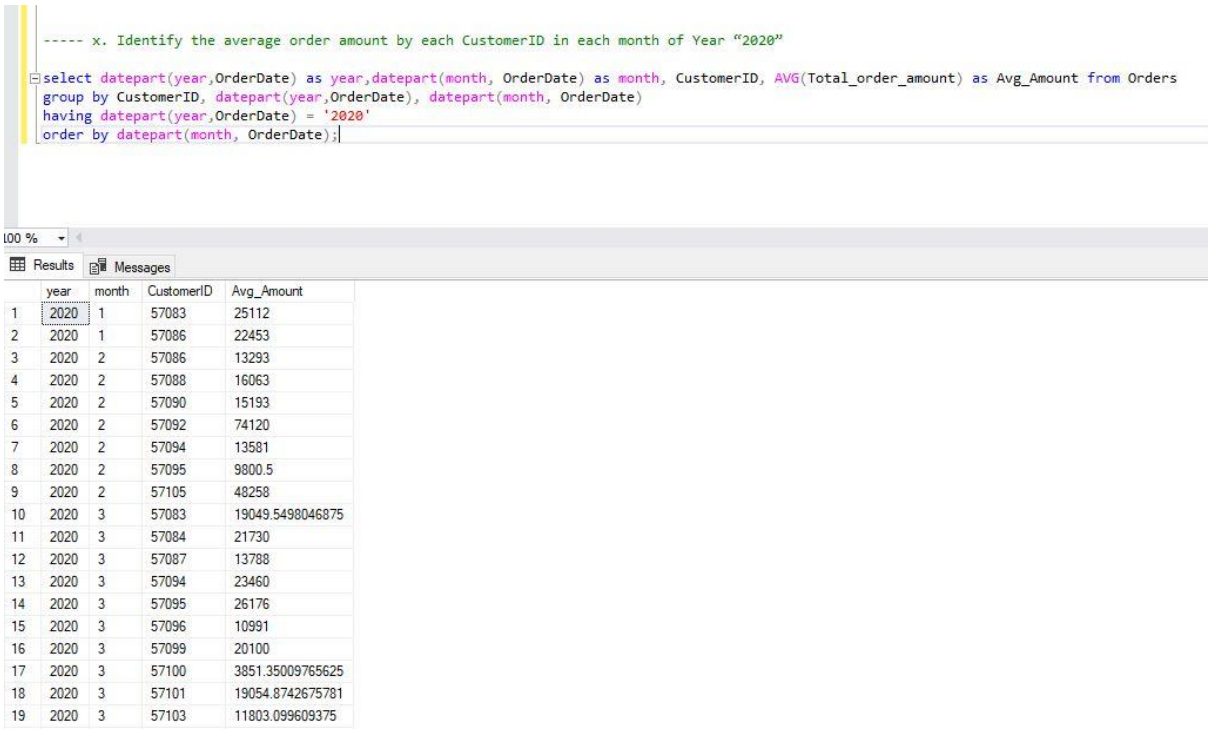
Results | Messages

	(No column name)	(No column name)	mo_of_orders
1	2021	1	136
2	2021	2	149
3	2021	3	216
4	2021	4	239
5	2021	5	262
6	2021	6	300
7	2021	7	362
8	2021	8	403
9	2021	9	399
10	2021	10	515
11	2021	11	613
12	2021	12	680

x. Identify the average order amount by each CustomerID in each month of Year “2020”

Ans)

```
select datepart(year,OrderDate) as year,datepart(month, OrderDate) as month,
CustomerID, AVG(Total_order_amount) as Avg_Amount from Orders
group by CustomerID, datepart(year,OrderDate), datepart(month, OrderDate)
having datepart(year,OrderDate) = '2020'
order by datepart(month, OrderDate);
```



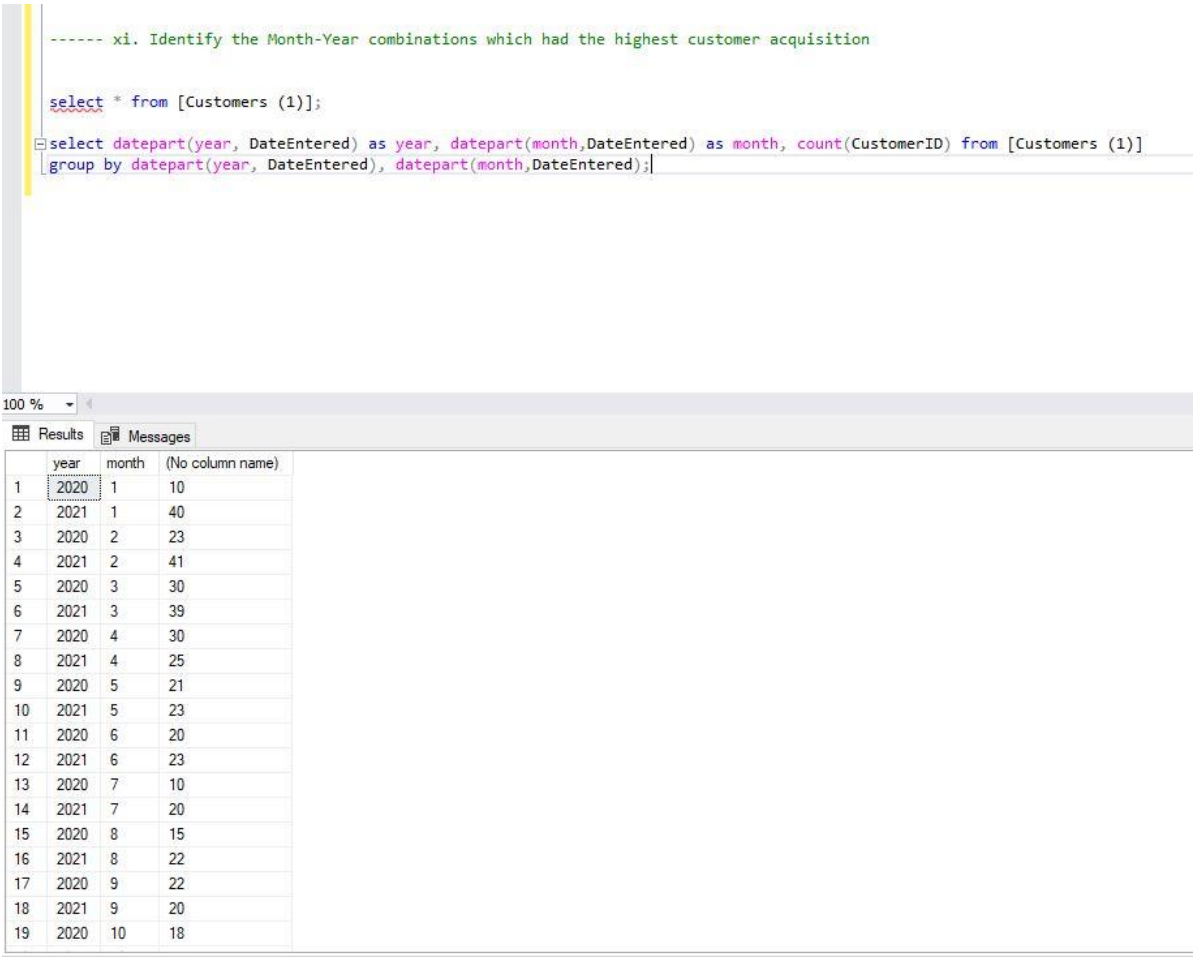
	year	month	CustomerID	Avg_Amount
1	2020	1	57083	25112
2	2020	1	57086	22453
3	2020	2	57086	13293
4	2020	2	57088	16063
5	2020	2	57090	15193
6	2020	2	57092	74120
7	2020	2	57094	13581
8	2020	2	57095	9800.5
9	2020	2	57105	48258
10	2020	3	57083	19049.5498046875
11	2020	3	57084	21730
12	2020	3	57087	13788
13	2020	3	57094	23460
14	2020	3	57095	26176
15	2020	3	57096	10991
16	2020	3	57099	20100
17	2020	3	57100	3851.35009765625
18	2020	3	57101	19054.8742675781
19	2020	3	57103	11803.099609375

Xi) **Identify the Month-Year combinations which had the highest customer acquisition**

Ans)

```
select * from [Customers (1)];

select datepart(year, DateEntered) as year, datepart(month,DateEntered) as month,
count(CustomerID) from [Customers (1)]
group by datepart(year, DateEntered), datepart(month,DateEntered);
```



	year	month	(No column name)
1	2020	1	10
2	2021	1	40
3	2020	2	23
4	2021	2	41
5	2020	3	30
6	2021	3	39
7	2020	4	30
8	2021	4	25
9	2020	5	21
10	2021	5	23
11	2020	6	20
12	2021	6	23
13	2020	7	10
14	2021	7	20
15	2020	8	15
16	2021	8	22
17	2020	9	22
18	2021	9	20
19	2020	10	18

Q2. What is the difference between Where and Having clause? Can both of them be used together?

Ans) Difference between Where and Having clause are:

a) Where Clause is used to filter the records whereas having clause is used to filter record from the groups.
b) Where clause can be used with GROUP BY clause, having clause cannot be used without GROUP BY clause.
c) Where clause implements in row operations and having clause implements in column operation.
d) Where clause is used before the GROUP BY clause and Having Clause is used after the Group BY Clause.

Yes, an SQL query can contain a WHERE and HAVING clause. You will use these together when you want to extract (or filter) rows for a group of data using a WHERE clause and apply a condition on the aggregate using the HAVING clause.

Q3. Write the order of writing and order of execution of a SQL Query. Are both of them the same? -3

Ans)

Writing of execution	Order of execution
SELECT	FROM
FROM	WHERE
WHERE	GROUP BY
GROUP BY	ORDER BY
HAVING	HAVING
ORDER BY	SELECT
LIMIT	LIMIT

No, both of the sequence is not the same.

Q4) What is the difference between CONCAT and CONCAT_WS. Explain with an example. – 2

Ans)

CONCAT_WS is used to concatenate with only one separator while the CONCAT appends strings together in any way you want.

Example:

a) SELECT CONCAT('Sachin','_','Gupta','_','Male');
b) SELECT CONCAT_WS('Sachin','_','Gupta','_','Male');

The major Difference between CONCAT and CONCAT_WS are which are relating to the delimiter or separator in the middle.

Q5. What will be the output of the below queries? – 5

Ans)

a) Select Sum(Null), Count(Null);
   Ans - 0
b) Select Count(Null);
   Ans – It is returning null value
c) Select Reverse('Evaluation2');
   Ans – no value
d) Select Right ('Evaluation2', 4);
   Ans – EVALUAT
e) Select Replace('Evaluation2', 'a','op');
   Ans – EVOPLUOPTION2

Q6. Identify the error if any and rectify the same for each of the following queries: - 5

Ans)

a. Select * from tablename group by col1;
   - correct Query

b. Select col1, sum(col2) from tablename having sum(col2) > value;
   - correct Query

c. Select Type, AVG(Rating) as avg_rating FROM Products GROUP BY Type order by AVG(Rating) Where Rating is NOT NULL;
   - correct Query

d. Select Type, AVG(Rating) as avg_rating FROM Products HAVING Rating is NOT NULL GROUP BY Type order by AVG(Rating);
   - correct Query

e. Select ISNULL(col1, col2, col3,col4)
   - incorrect Query