1. Import the dataset and do usual exploratory analysis steps like checking the structure & characteristics of the dataset.

   1.1.   Data type of all columns in the "customers" table.

   Ans :
   ```sql
   SELECT column_name, data_type
   FROM `target.INFORMATION_SCHEMA.COLUMNS`
   WHERE table_name = 'customers';
   ```

Query results   SAVE RESULTS ▾   EXPLORE DATA ▾   ⇕

JOB INFORMATION   **RESULTS**   JSON   EXECUTION DETAILS   CHART PREVIEW   EXECUTION GRAPH

Row	column_name ▾	data_type ▾
1	customer_id	STRING
2	customer_unique_id	STRING
3	customer_zip_code_prefix	INT64
4	customer_city	STRING
5	customer_state	STRING

INSIGHT - Here we are just understanding the type of data we are given from the source.

1.2   Get the time range between which the orders were placed.

   Ans:
   ```sql
   SELECT min(order_purchase_timestamp) as first_order,
    max(order_purchase_timestamp) as Last_order
   from `target.orders`
   ```

Query results   SAVE RESULTS ▾   EXPLORE DATA ▾   ⇕

JOB INFORMATION   **RESULTS**   JSON   EXECUTION DETAILS   CHART PREVIEW   EXECUTION GRAPH

Row	first_order ▾	Last_order ▾
1	2016-09-04 21:15:19 UTC	2018-10-17 17:30:18 UTC

INSIGHT - Here we are understanding what is the range between customer's first order and the last placed order in the given time period.

1.2 Customer Support availability - Businesses can align their customer support availability with the peak order times. Offering live chat, phone support, or email assistance during the hours when most orders are placed ensures that customers receive prompt assistance when they need it the most, enhancing overall customer satisfaction.

1.3   Count the Cities & States of customers who ordered during the given period.

```
Ans:    select count(distinct geolocation_city) as no_of_city,
                  count(distinct geolocation_state) as no_of_states
            from `target-401008.target.geolocation` g
            join `target-401008.target.customers` c
            on g.geolocation_zip_code_prefix = c.customer_zip_code_prefix
            join `target-401008.target.orders` o
            on o.customer_id = c.customer_id
            where o.customer_id in (SELECT customer_id
            From
            (SELECT customer_id, order_purchase_timestamp,
            min(order_purchase_timestamp) as first_order,
            max(order_purchase_timestamp) as Last_order
            from `target.orders`
            group by 1,2 ) t
            where order_purchase_timestamp between t.first_order and
        t.Last_order)
```

INSIGHT -

By counting the unique cities and states, we can gain insights into the geographical reach of your customer base. Understanding where your customers are located geographically helps in tailoring marketing strategies, product offerings, and shipping options to cater to specific regions.

Geographical data can be used to infer certain demographic information. For example, orders from densely populated urban

areas might indicate a younger, tech-savvy customer base. On the other hand, orders from rural areas might represent an older demographic. Understanding these demographics can help in creating targeted marketing messages

Query results

SAVE RESULTS ▾   EXPLORE DATA ▾

Row	no_of_city ▾	no_of_states ▾
1	5812	27

2. In-depth Exploration:

   2.1 Is there a growing trend in the no. of orders placed over the past years?
        Ans : YES

```sql
select
extract(YEAR FROM order_purchase_timestamp) AS YEAR,
COUNT(order_id) AS NO_OF_ORDERS
FROM `target.orders`
group by 1
order by 1
```

JOB INFORMATION RESULTS JSON EXECUTION DETAILS CHART PREVIEW EXECUTION GRAPH

Row	YEAR ▾	NO_OF_ORDERS ▾
1	2016	329
2	2017	45101
3	2018	54011

INSIGHTS - Yes, there is a growing trend in the no. of orders placed over the past years and with growing orders we can say that the company is growing and its customers are satisfied with the offerings.

2.2 Can we see some kind of monthly seasonality in terms of the no. of orders being placed?

 Ans : 2.2

```
select
extract(MONTH FROM order_purchase_timestamp) AS MONTH,
extract(YEAR FROM order_purchase_timestamp) AS YEAR,
COUNT(order_id) AS NO_OF_ORDERS
FROM `target.orders`
group by 1,2
order by 2,1
```

| Query results | | | | | | | ⬇ SAVE RESULTS ▾ | 📊 EXPLORE DATA ▾ | ⇕ |

JOB INFORMATION RESULTS JSON EXECUTION DETAILS CHART PREVIEW EXECUTION GRAPH

Row	MONTH ▾	YEAR ▾	NO_OF_ORDERS ▾
1	9	2016	4
2	10	2016	324
3	12	2016	1
4	1	2017	800
5	2	2017	1780
6	3	2017	2682
7	4	2017	2404
8	5	2017	3700
9	6	2017	3245
10	7	2017	4026

INSIGHTS - **Upon analyzing the monthly order data, it is evident that there is no discernible monthly seasonality in the number of orders being placed. The order patterns do not follow a consistent trend or exhibit any noticeable peaks or troughs on a monthly basis.**

This absence of monthly seasonality indicates that external factors such as holidays, seasons, or special events do not significantly impact the number of orders placed each month.

2.3   During what time of the day, do the Brazilian customers mostly place their orders? (Dawn, Morning, Afternoon or Night)
   ○ 0-6 hrs : Dawn
   ○ 7-12 hrs : Mornings
   ○ 13-18 hrs : Afternoon
   ○ 19-23 hrs : Night

ANS: Afternoon

```sql
SELECT case when T.HOUR >=0 and T.HOUR<6 THEN 'Dawn'
       when T.HOUR >=7 and T.HOUR<12 THEN 'Mornings'
       when T.HOUR >=13 and T.HOUR<18 THEN 'Afternoon'
       when T.HOUR >=19 and T.HOUR<23 THEN 'Night' else 'others'
       end as time_of_the_day,
       count(order_id) as order_count
       FROM
       (select order_id, order_purchase_timestamp,
       extract(HOUR FROM order_purchase_timestamp) AS HOUR
       from `target.orders`) T
       group by 1
       order by 2 DESC;
```

Query results

SAVE RESULTS ▾   EXPLORE DATA ▾   ⇕

JOB INFORMATION   RESULTS   JSON   EXECUTION DETAILS   CHART PREVIEW   EXECUTION GRAPH

Row	time_of_the_day ▾	order_count ▾
1	Afternoon	32366
2	Night	24208
3	Mornings	21738
4	others	16389
5	Dawn	4740

INSIGHTS - Upon analyzing the order data from Brazilian customers, it is evident that the majority of orders are placed during the afternoon hours. In the specified time categorization:

13:00 to 18:00 (1:00 PM to 6:00 PM): Afternoon
During this period, customers in Brazil show a consistent pattern of placing orders. This finding suggests that the afternoon is the prime time when Brazilian customers prefer to make their purchases. Understanding this trend is valuable for businesses, as it enables targeted marketing efforts and optimized customer service during these hours to enhance the overall customer experience and potentially increase sales.

3. Evolution of E-commerce orders in the Brazil region:
    3.1 Get the month on month no. of orders placed in each state.

ANS :

```sql
SELECT g.geolocation_state,
    extract(MONTH FROM order_purchase_timestamp) AS MONTH,
    extract(YEAR FROM order_purchase_timestamp) AS YEAR,
    count(o.order_id) as no_of_orders
from `target-401008.target.geolocation` g
join `target-401008.target.customers` c
on g.geolocation_zip_code_prefix = c.customer_zip_code_prefix
join `target-401008.target.orders` o
on o.customer_id = c.customer_id
group by 1,2,3
order by 3,2
```

Query results					SAVE RESULTS ▾	EXPLORE DATA ▾	⬍
JOB INFORMATION	RESULTS	JSON	EXECUTION DETAILS	CHART PREVIEW	EXECUTION GRAPH		

Row	geolocation_state ▾	MONTH ▾	YEAR ▾	no_of_orders ▾	
1	RR	9	2016	65	
2	RS	9	2016	103	
3	SP	9	2016	492	
4	SE	10	2016	65	
5	AL	10	2016	52	
6	PI	10	2016	56	
7	RR	10	2016	65	
8	BA	10	2016	292	
9	CE	10	2016	477	
10	DF	10	2016	305	

Results per page: 50 ▾   1 – 50 of 565 |< < > >|

<u>INSIGHTS -</u>
<u>Regional Order Volume Trends:</u>

<u>By analyzing the month-on-month orders placed in each state, we have identified significant variations in order volumes across regions. Some states exhibit consistent growth, indicating a robust e-commerce market and potential business opportunities. Conversely, fluctuations or declines in certain states may signify market challenges or changing consumer preferences, demanding targeted strategies for revival.</u>

<u>Studying orders on a month-on-month basis can reveal operational challenges in specific states. Prolonged delivery times or supply chain issues might lead to customer dissatisfaction. Identifying these challenges enables businesses to optimize logistics and streamline operations, ensuring timely deliveries and enhancing customer experience.</u>

3.2   How are the customers distributed across all the states?

ANS:

```sql
Select g.geolocation_state,
    count(c.customer_unique_id) as no_of_customers
    from `target-401008.target.geolocation` g
    join `target-401008.target.customers` c
    on g.geolocation_zip_code_prefix = c.customer_zip_code_prefix
    group by g.geolocation_state
    order by 2 desc;
```

Query results

SAVE RESULTS ▾   EXPLORE DATA ▾

JOB INFORMATION   RESULTS   JSON   EXECUTION DETAILS   CHART PREVIEW   EXECUTION GRAPH

Row	geolocation_state ▾	no_of_customers ▾
1	SP	5620430
2	RJ	3015690
3	MG	2878728
4	RS	805370
5	PR	626021
6	SC	538638
7	BA	365875
8	ES	316654
9	GO	133146
10	MT	122395

INSIGHTS - Upon analyzing the customer data across states, a clear pattern emerges: the majority of customers are concentrated in only three states. This concentration indicates that a significant portion of the customer base is localized in specific regions, while other states have comparatively fewer customers.

This finding has significant implications for business strategies and operations. Focusing marketing efforts, promotional activities, and customer engagement initiatives on these three states can yield higher returns on investment. By tailoring products, services, and marketing campaigns to cater specifically to the preferences and needs of customers in these states, the business can enhance customer satisfaction and loyalty within its primary customer base.

4. Impact on Economy: Analyze the money movement by e-commerce by looking at order prices, freight and others.

4.1 Get the % increase in the cost of orders from year 2017 to 2018 (include months between Jan to Aug only).
You can use the "payment_value" column in the payments table to get the cost of orders.

Ans.
```sql
with cte as (select extract(MONTH FROM order_purchase_timestamp) AS MONTH,
extract(YEAR FROM order_purchase_timestamp) AS YEAR, sum(p.payment_value) as cost_of_order
from `target.payments` p
join `target.orders` o
on o.order_id = p.order_id
group by 1,2
order by 2,1)
```

```sql
select MONTH, YEAR, cost_of_order,
lag(cost_of_order,1) over(ORDER BY YEAR,MONTH) AS PREVIOUS_MONTH,
(cost_of_order- lag(cost_of_order,1) over(ORDER BY YEAR,MONTH))/
lag(cost_of_order,1) over(ORDER BY YEAR,MONTH)*100 as percentage_increase_per_month
from cte
where cte.MONTH >=1 and cte.MONTH <=8
ORDER BY 2,1
```

Query results   ⬇ SAVE RESULTS ▾   📊 EXPLORE DATA ▾   ⬍

	JOB INFORMATION	RESULTS	JSON	EXECUTION DETAILS	CHART PREVIEW	EXECUTION GRAPH	

Row	MONTH ▾	YEAR ▾	cost_of_order ▾	PREVIOUS_MONTH ▾	percentage_increase_per_month ▾	
1	1	2017	138488.0399999...	null	null	
2	2	2017	291908.0099999...	138488.03999999989	110.7821079712009	
3	3	2017	449863.6000000...	291908.00999999966	54.111427089650874	
4	4	2017	417788.0300000...	449863.60000000027	-7.1300656465648533	
5	5	2017	592918.8200000...	417788.03000000032	41.918575311983126	
6	6	2017	511276.3800000...	592918.82000000111	-13.769581474914128	
7	7	2017	592382.9200000...	511276.38000000152	15.863541358981042	
8	8	2017	674396.3200000...	592382.92000000284	13.84465980214282	
9	1	2018	1115004.180000...	674396.32000000309	65.3336690805195	
10	2	2018	992463.3400000...	1115004.1800000065	-10.990168664659391	

INSIGHTS -

Economic Growth and Consumer Confidence:

An increase in e-commerce spending from 2017 to 2018 indicates a robust economic environment and consumer confidence. When consumers spend more online, it often signifies increased trust in the economy, stable income levels, and positive sentiment about future prospects.

E-commerce Market Expansion:

The significant growth in e-commerce spending suggests the e-commerce market is expanding. More consumers are embracing online shopping, which can be attributed to factors like improved internet infrastructure, widespread smartphone usage, and the convenience offered by online shopping platforms.

4.2 Calculate the Total & Average value of order price for each state.

ANS.
```sql
select g.geolocation_state, SUM(ot.price) As Total_price,
       AVG(ot.price) as Average_price
from `target.order_items` ot
left join `target.sellers` s
on s.seller_id = ot.seller_id
join `target.geolocation` g
on s.seller_zip_code_prefix = g.geolocation_zip_code_prefix
group by 1
```

Query results

JOB INFORMATION   RESULTS   JSON   EXECUTION DETAILS   CHART PREVIEW   EXECUTION GRAPH

Row	geolocation_state	Total_price	Average_price
1	SE	77088.69999999…	190.3424691358…
2	PI	10088.0	210.1666666666…
3	AM	31779.0	392.3333333333…
4	AC	43788.0	267.0
5	RO	628875.6799999…	369.0584976525…
6	BA	23385841.44995…	351.6086278961…
7	CE	740073.6300000…	246.1169371466…
8	DF	4674257.660001…	72.55910679912…
9	ES	3211486.259999…	127.3085808293…
10	GO	4444926.589999…	164.1284465696…

INSIGHTS - Total Order Price: State SE has the highest total order price, indicating a high volume of sales. States PI and AM also show substantial total order prices, reflecting a significant economic impact in these regions.

Average Order Price: While the State SE has the highest total order price, it's crucial to note the average order price. States with higher average order prices might signify a more affluent customer base willing to spend more on products, whereas states with lower average order prices may have more price-sensitive customers.

4.3 Calculate the Total & Average value of order freight for each state.

Ans.
```sql
select g.geolocation_state, SUM(ot.freight_value) As Total_value,
       AVG(ot.freight_value) as Average_value
from `target.order_items` ot
left join `target.sellers` s
on s.seller_id = ot.seller_id
join `target.geolocation` g
on s.seller_zip_code_prefix = g.geolocation_zip_code_prefix
group by 1
```

Query results

SAVE RESULTS ▾   EXPLORE DATA ▾   ⬍

| JOB INFORMATION | RESULTS | JSON | EXECUTION DETAILS | CHART PREVIEW | EXECUTION GRAPH |

Row	geolocation_state ▾	Total_value ▾	Average_value ▾
1	SE	11798.20000000...	29.13135802469...
2	PI	1773.280000000...	36.94333333333...
3	AM	2208.599999999...	27.26666666666...
4	AC	5385.760000000...	32.84
5	RO	85745.36000000...	50.32004694835...
6	BA	1939324.409999...	29.15794996316...
7	CE	163715.9700000...	54.44495177918...
8	DF	1223546.710000...	18.99327398323...
9	ES	724107.3200000...	28.70480139538...
10	GO	694619.5200000...	25.64875267705...

INSIGHTS - Total Order Freight: States with higher total order freight costs might indicate larger distances between the seller's warehouse and customers' locations.

This information is crucial for logistics and supply chain management, helping businesses optimize shipping routes and reduce transportation costs.

Average Order Freight: Analyzing the average order freight provides insights into the shipping preferences of customers in different states. States with higher average order freight costs might have customers willing to pay more for expedited or specialized shipping services. On the other hand, states with lower average order freight costs might indicate a preference for standard or economical shipping options

5. Analysis based on sales, freight and delivery time.

       5.1 Find the no. of days taken to deliver each order from the order's purchase date as delivery time.

       Also, calculate the difference (in days) between the estimated & actual delivery date of an order.

       Do this in a single query.

       Ans.

```sql
SELECT order_purchase_timestamp, order_delivered_customer_date,
        Order_estimated_delivery_date,
    TIMESTAMP_DIFF(order_delivered_customer_date,
order_purchase_timestamp,DAY) as delivery_time,
    TIMESTAMP_DIFF(order_estimated_delivery_date,
order_delivered_customer_date, DAY) as
difference_in_estimation_and_delivery_dates
    from `target.orders`
    where order_delivered_customer_date is not null
    ORDER BY 1
```

Query results

JOB INFORMATION   **RESULTS**   JSON   EXECUTION DETAILS   CHART PREVIEW   EXECUTION GRAPH

Row	order_purchase_timestamp ▾	order_delivered_customer_date ▾	order_estimated_delivery_date ▾	delivery_time ▾	difference_in_estimation_and_delivery_dates
1	2016-09-15 12:16:38 UTC	2016-11-09 07:47:38 UTC	2016-10-04 00:00:00 UTC	54	-36
2	2016-10-03 09:44:50 UTC	2016-10-26 14:02:13 UTC	2016-10-27 00:00:00 UTC	23	0
3	2016-10-03 16:56:50 UTC	2016-10-27 18:19:38 UTC	2016-11-07 00:00:00 UTC	24	10
4	2016-10-03 21:01:41 UTC	2016-11-08 10:58:34 UTC	2016-11-25 00:00:00 UTC	35	16
5	2016-10-03 21:13:36 UTC	2016-11-03 10:58:07 UTC	2016-11-29 00:00:00 UTC	30	25
6	2016-10-03 22:06:03 UTC	2016-10-31 11:07:42 UTC	2016-11-23 00:00:00 UTC	27	22
7	2016-10-03 22:31:31 UTC	2016-10-14 16:08:00 UTC	2016-11-23 00:00:00 UTC	10	39
8	2016-10-03 22:44:10 UTC	2016-11-03 14:04:50 UTC	2016-12-01 00:00:00 UTC	30	27
9	2016-10-03 22:51:30 UTC	2016-11-01 15:14:45 UTC	2016-11-25 00:00:00 UTC	28	23
10	2016-10-04 09:06:10 UTC	2016-10-22 14:51:18 UTC	2016-11-24 00:00:00 UTC	18	32

INSIGHTS - Estimated vs. Actual Delivery Comparison:

Comparing estimated and actual delivery dates helps in evaluating the accuracy of delivery estimations. A small difference between these dates suggests accurate predictions, while a significant difference might indicate challenges in forecasting delivery times accurately. Understanding these differences can improve customer expectations management and prevent potential dissatisfaction.

5.2 Find out the top 5 states with the highest & lowest average freight value.

Ans-
```
with cte as
    (select g.geolocation_state, avg(freight_value)
    as average_freight_value
    from `target.order_items` ot
    left join `target.sellers` s
    on s.seller_id = ot.seller_id
    join `target.geolocation` g
    on s.seller_zip_code_prefix = g.geolocation_zip_code_prefix
    group by 1)


    (select geolocation_state, average_freight_value
```

```
        from cte
        order by cte.average_freight_value DESC
        limit 5)


        UNION ALL


        (select geolocation_state, average_freight_value
        from cte
        order by cte.average_freight_value ASC
        limit 5)
```


INSIGHTS - State CE has the highest average freight value. This might indicate that products delivered to this state are bulkier, heavier, or located far from the distribution centers, leading to higher shipping costs. Businesses operating in this state might consider optimizing their supply chain and exploring local distribution centers to reduce shipping expenses.

State AC rounds up the top 5 list. Exploring partnerships with regional carriers or investing in technology for route

optimization can help reduce freight costs. Businesses might also consider adjusting pricing strategies to accommodate higher shipping costs in this state.

State RN has the lowest average freight value. Analyzing the reasons behind low shipping costs in this state can provide valuable insights. Efficient transportation networks, proximity to distribution centers, or strategic partnerships with carriers could be contributing factors. Businesses can leverage these advantages to offer competitive pricing and attract more customers.

5.3 Find out the top 5 states with the highest & lowest average delivery time.

Ans-
```sql
with dte as
    (SELECT g.geolocation_state,
    avg(TIMESTAMP_DIFF(order_delivered_customer_date,
order_purchase_timestamp,DAY)) as avg_delivery_time,
    from `target.orders` o
    join `target.customers` c
    on o.customer_id = c.customer_id
    join `target.geolocation` g
    on c.customer_zip_code_prefix = g.geolocation_zip_code_prefix
    where order_delivered_customer_date is not null
    group by 1
    )

    (select geolocation_state, dte.avg_delivery_time
    from dte
    order by dte.avg_delivery_time desc
    limit 5)
```

```
union all

(select geolocation_state, dte.avg_delivery_time
from dte
order by dte.avg_delivery_time asc
limit 5)
```

Query results

| JOB INFORMATION | RESULTS | JSON | EXECUTION DETAILS | CHART PREVIEW | EXECUTION GRAPH |

Row	geolocation_state ▾	avg_delivery_time ▾
1	AP	27.99122623772…
2	AM	24.65119678421…
3	RR	24.52060133630…
4	AL	23.14352789271…
5	PA	22.55023982441…
6	SP	8.470529714190…
7	PR	11.03876404770…
8	MG	11.41862683439…
9	DF	12.49651789233…
10	SC	14.49430832817…

```
INSIGHTS - State AP has the highest average delivery time. This could be due to
various reasons such as logistical challenges, lack of efficient transportation
infrastructure, or high order volumes in this state. Businesses should investigate the
underlying causes and consider optimizing their supply chain processes and exploring
local distribution centers to reduce delivery times.

State SP has the lowest average delivery time. Efficient logistics, strategic
placement of distribution centers, and partnerships with reliable carriers might
contribute to the quick deliveries in this state. Businesses can capitalize on this
advantage by promoting fast and reliable shipping options to attract customers looking
for timely deliveries.
```

5.4 Find out the top 5 states where the order delivery is really fast as compared to the estimated date of delivery.

You can use the difference between the averages of actual & estimated delivery date to figure out how fast the delivery was for each state.

Ans - `with` ata `as`(

   `SELECT` g.geolocation_state,

   `avg`(`TIMESTAMP_DIFF`(order_delivered_customer_date,

order_purchase_timestamp,DAY)) `as` avg_delivery_time,

   `avg`(`TIMESTAMP_DIFF`(order_estimated_delivery_date,

order_delivered_customer_date, DAY)) `as` estimated_time

   `from` `` `target.orders` `` o

   `join` `` `target.customers` `` c

   `on` o.`customer_id` = c.customer_id

   `join` `` `target.geolocation` `` g

   `on` c.`customer_zip_code_prefix` = g.geolocation_zip_code_prefix

   `where` order_delivered_customer_date `is not null`

   `group by` 1)

   `select` geolocation_state, avg_delivery_time,estimated_time,

(estimated_time -avg_delivery_time) `as` prior_est_delivery

   `from` ata

   `order by` estimated_time -avg_delivery_time `desc`

   `limit` 5

Row	geolocation_state	avg_delivery_time	estimated_time	prior_est_delivery
1	SP	8.470529714190...	10.23094778576...	1.760418071575...
2	PR	11.03876404770...	12.56997671075...	1.531212663053...
3	MG	11.41862683439...	12.34861425956...	0.929987425172...
4	RO	18.65449823598...	18.65209721677...	-0.00240101920...
5	DF	12.49651789233...	11.26009592221...	-1.23642197012...

Query results

JOB INFORMATION   RESULTS   JSON   EXECUTION DETAILS   CHART PREVIEW   EXECUTION GRAPH

SAVE RESULTS   EXPLORE DATA

INSIGHTS - State Sp Orders in this state are consistently delivered much faster than customers anticipate. Understanding the reasons behind this efficiency, such as optimized logistics networks or strategic partnerships with local carriers, can serve as a model for other regions

State Pr follows closely with the second-smallest average difference. Businesses should investigate the practices and processes in this state that contribute to these rapid deliveries. By replicating successful strategies, other states can improve their delivery efficiency and enhance customer satisfaction.

6. Analysis based on the payments:

6.1   Find the month on month no. of orders placed using different payment types.

ANS
```sql
select p.payment_type,
extract(MONTH FROM order_purchase_timestamp) AS MONTH,
extract(YEAR FROM order_purchase_timestamp) AS YEAR,
count(o.order_id) as no_of_orders
from `target.payments` p
left join `target.orders` o
on o.order_id = p.order_id
group by 1,2,3
order by 3,2,1
```

Row	payment_type ▾	MONTH ▾	YEAR ▾	no_of_orders ▾
1	credit_card	9	2016	3
2	UPI	10	2016	63
3	credit_card	10	2016	254
4	debit_card	10	2016	2
5	voucher	10	2016	23
6	credit_card	12	2016	1
7	UPI	1	2017	197
8	credit_card	1	2017	583
9	debit_card	1	2017	9
10	voucher	1	2017	61

INSIGHTS - Payment Type Preferences: By analyzing the month-on-month trends, you can identify which payment types are consistently popular among customers. For example, credit card payments might show a steady increase over time, indicating a growing trust in online transactions. Understanding these preferences allows businesses to optimize their payment gateway options and user experience

6.2 Find the no. of orders placed on the basis of the payment installments that have been paid.

ANS:

```
select payment_sequential, payment_installments,
        count(order_id) as no_of_orders
        from `target.payments`
        where payment_sequential = payment_installments
        group by 1,2
```

Row	payment_sequential	payment_installment	no_of_orders ▾
1	1	1	48236
2	2	2	53
3	3	3	1

INSIGHTS - Competitive Advantage: Offering flexible payment installment options can serve as a competitive advantage. Businesses can differentiate themselves in the

market by providing hassle-free, transparent, and user-friendly installment plans, attracting customers who prioritize convenient payment methods.