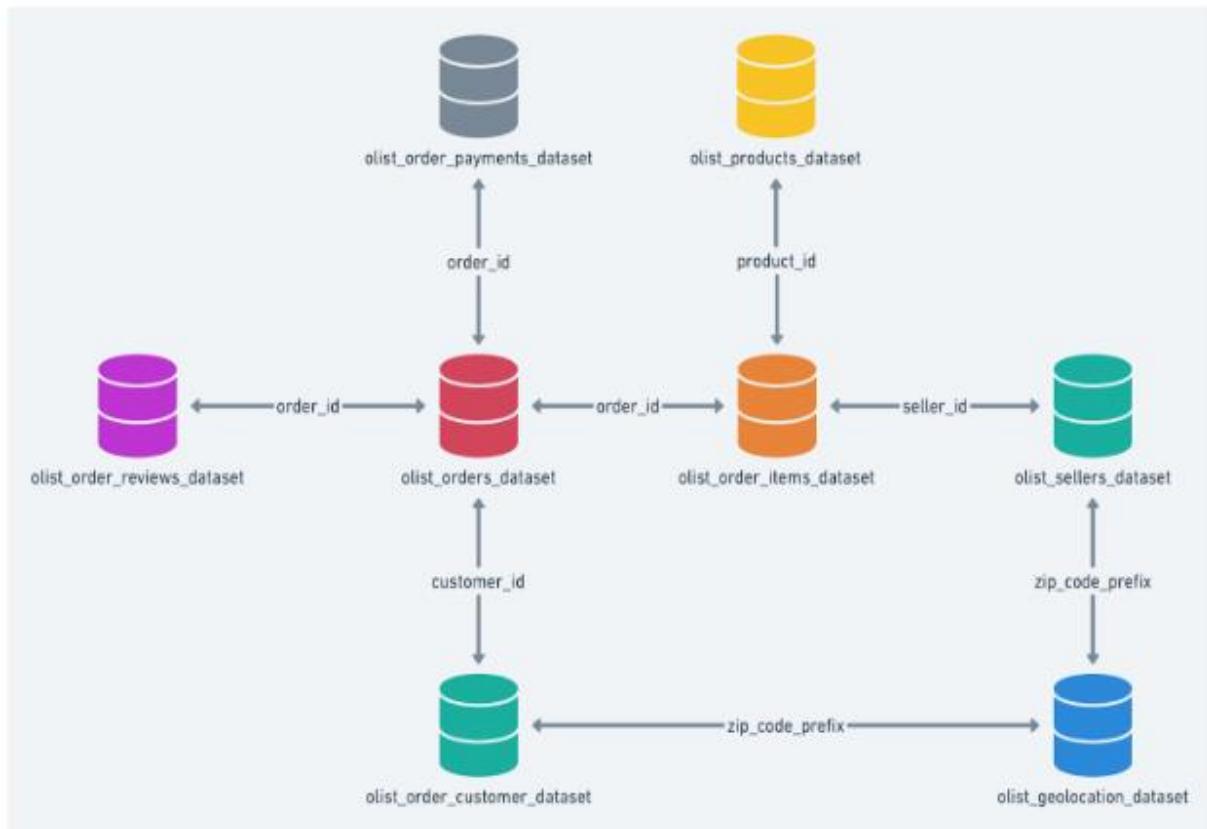


Target Project

Schema: -



```
SELECT
  *
FROM
  `Target.customers`
```

Screenshot of the BigQuery UI showing the schema for the 'customers' table.

Field name	Type	Mode	Collation	Default value	Policy tags	Description
customer_id	STRING	NULLABLE				
customer_unique_id	STRING	NULLABLE				
customer_zip_code_prefix	INTEGER	NULLABLE				
customer_city	STRING	NULLABLE				
customer_state	STRING	NULLABLE				

Row	customer_id	customer_unique_id	customer_zip_code_prefix	customer_city	customer_state
1	0735e7e4298a2ebbb4664934...	fcb003b1bdc0df64b4d065d9b...	59650	acu	RN
2	903b3d86e3990db01619a4ebe...	46824822b15da44e983b021d...	59650	acu	RN
3	38c97666e962d4fea7fd6a83e...	b6108acc674ae5c99e29adc10...	59650	acu	RN
4	77c2f46cf580f4874c9a5751c...	402cce5c0509000eed9e77fec...	63430	ico	CE
5	4d3ef4cfffb8ad4767c199c36a...	6ba00666ab7eadaf5ceec279b2...	63430	ico	CE
6	3000841b86e1fbe9493b52324...	796a0b1a21f597704057184a1...	63430	ico	CE
7	3c325415ccc7e622c66dec4bc...	05d1d2d9f0161c5f397ce7fc77...	63430	ico	CE
8	04f3a7b250e3be964f01bf22bc...	c34585a0276ecc5e4fb03de75...	63430	ico	CE
9	894202b8ef01f4719a4691e79...	01a4fe5fc00bbdb0b0a4af5a53...	63430	ico	CE
10	9d715b9fb75a9d081c14126c0...	8f399f3b7ace8e6245422c9e1f...	63430	ico	CE
11	018184ac5f52a821bb00f3ef21...	54fc4ff419d5e05db5f42906b...	63430	ico	CE

Results per page: 50 ▾ 1 – 50 of 99441

```
SELECT
*
FROM
`Target.geolocation`
```

geolocation		QUERY	SHARE	COPY	SNAPSHOT	DELETE	EXPORT
SCHEMA	DETAILS	PREVIEW	LINEAGE	PREVIEW			
Filter Enter property name or value							
<input type="checkbox"/> Field name	Type	Mode	Collation	Default value	Policy tags	?	Description
<input type="checkbox"/> geolocation_zip_code_prefix	INTEGER	NULLABLE					
<input type="checkbox"/> geolocation_lat	FLOAT	NULLABLE					
<input type="checkbox"/> geolocation_lng	FLOAT	NULLABLE					
<input type="checkbox"/> geolocation_city	STRING	NULLABLE					
<input type="checkbox"/> geolocation_state	STRING	NULLABLE					

Row	geolocation_zip_code_prefix	geolocation_lat	geolocation_lng	geolocation_city	geolocation_state
1	49010	-10.910514518754546	-37.052400776992329	aracaju	SE
2	49047	-10.9268145	-37.071063000000009	aracaju	SE
3	49030	-10.970164794304576	-37.061643830745815	aracaju	SE
4	49048	-10.940183531738979	-37.070850242714528	aracaju	SE
5	49050	-10.927157352800547	-37.063078689600516	aracaju	SE
6	49015	-10.923370500160772	-37.045169150380509	aracaju	SE
7	49045	-10.930406582318476	-37.067178493623359	aracaju	SE
8	49052	-10.922973517889163	-37.057752502914184	aracaju	SE
9	49044	-10.992080999999946	-37.103470999999956	aracaju	SE
10	49048	-10.940235501586523	-37.071043333891133	aracaju	SE

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```
SELECT  
    *  
FROM  
    `Target.order_items`
```

order_items		QUERY ▾	SHARE	COPY	SNAPSHOT	DELETE	EXPORT ▾
CHEMA	DETAILS	PREVIEW	LINEAGE	PREVIEW			
Filter Enter property name or value							
<input type="checkbox"/> Field name	Type	Mode	Collation	Default value	Policy tags ?	Description	
<input type="checkbox"/> <u>order_id</u>	STRING	NULLABLE					
<input type="checkbox"/> <u>order_item_id</u>	INTEGER	NULLABLE					
<input type="checkbox"/> <u>product_id</u>	STRING	NULLABLE					
<input type="checkbox"/> <u>seller_id</u>	STRING	NULLABLE					
<input type="checkbox"/> <u>shipping_limit_date</u>	TIMESTAMP	NULLABLE					

Row	order_id	order_item_id	product_id	seller_id	shipping_limit_date	price	freight_value
1	f09e36e258656850b926...	1	44d53f1240d6332232...	b64d51f0435e884e8d...	2018-07-09 13:31:36 UTC	3.0	12.79
2	f9ccaff7267df0cf076e7...	1	44d53f1240d6332232...	b64d51f0435e884e8d...	2018-08-14 14:04:44 UTC	3.0	15.23
3	c79bdf061e2228860920...	1	5304ff3fa35856a156e...	cf6f6bc4df3999b9c64...	2017-05-12 19:05:20 UTC	3.5	8.72
4	37193e64eb9a46b7f319...	1	98224bf1eaadb3a394...	ce616e1913288884e7...	2018-06-28 01:30:49 UTC	3.5	7.39
5	95d6357ffe41aa6d2998...	1	98224bf1eaadb3a394...	ce616e1913288884e7...	2018-06-12 19:15:14 UTC	3.5	18.23
6	95d6357ffe41aa6d2998...	2	98224bf1eaadb3a394...	ce616e1913288884e7...	2018-06-12 19:15:14 UTC	3.5	18.23
7	95d6357ffe41aa6d2998...	3	98224bf1eaadb3a394...	ce616e1913288884e7...	2018-06-12 19:15:14 UTC	3.5	18.23
8	95d6357ffe41aa6d2998...	4	98224bf1eaadb3a394...	ce616e1913288884e7...	2018-06-12 19:15:14 UTC	3.5	18.23
9	95d6357ffe41aa6d2998...	5	98224bf1eaadb3a394...	ce616e1913288884e7...	2018-06-12 19:15:14 UTC	3.5	18.23
10	dde867f83e689b016778...	1	914323edd50192310d...	2c9e548be18521d1c4...	2017-10-20 14:50:12 UTC	4.5	11.85

```
SELECT  
  *  
FROM  
  `Target.order_reviews`
```

order_reviews		QUERY ▾	SHARE	COPY	SNAPSHOT	DELETE	EXPORT ▾
CHEMA	DETAILS	PREVIEW	LINEAGE	PREVIEW			
Filter Enter property name or value							
<input type="checkbox"/> Field name	Type	Mode	Collation	Default value	Policy tags	Description	
<input type="checkbox"/> review_id	STRING	NULLABLE					
<input type="checkbox"/> order_id	STRING	NULLABLE					
<input type="checkbox"/> review_score	INTEGER	NULLABLE					
<input type="checkbox"/> review_comment_title	STRING	NULLABLE					
<input type="checkbox"/> review_creation_date	TIMESTAMP	NULLABLE					

Row	review_id	order_id	review_score	review_comment_title	review_creation_date	review_answer_timestamp
1	be7e2989673cb2a147b87ba73...	777c67eab7c0712ccde0ffbb2...	1	null	2001-04-17 00:00:00 UTC	2001-04-17 07:40:00 UTC
2	e12151267e4594d69eda14a87...	4338a4463f7f9193d2a03a83a...	1	null	2001-04-17 00:00:00 UTC	2001-04-17 09:04:00 UTC
3	416d14b133efebcd10352001b...	b8aaeda740b17cf925d3f2a13...	1	null	2001-04-17 00:00:00 UTC	2002-04-17 03:48:00 UTC
4	c950324a42c5796d06f569f77...	b159d0ce7cd881052da94fa16...	1	null	2001-04-17 00:00:00 UTC	2001-04-17 10:24:00 UTC
5	76823ada94c8861ecebcfb7c...	2a3007ed051b02a0e0dd0709c...	1	null	2001-04-17 00:00:00 UTC	2002-04-17 13:58:00 UTC
6	fe270df00abc5c39fc7385143...	a39d3db795a5cfc48b6c9dd05...	1	null	2001-04-17 00:00:00 UTC	2003-04-17 12:49:00 UTC
7	1b71e0b29ec2faa0a029ded43...	0e530f6be154c9d7e7b12f341...	1	null	2001-04-17 00:00:00 UTC	2010-04-17 12:45:00 UTC
8	efe4020a945ee6fce858606694...	264c045399fb02e9f309f715c2...	1	null	2001-04-17 00:00:00 UTC	2002-04-17 01:16:00 UTC
9	23ee6bc2492808dca0e807e13...	2ba1366baecd3c3536f27546...	1	null	2001-04-17 00:00:00 UTC	2001-04-17 14:34:00 UTC
10	63c6cec8cb9a2d0990b339998...	aaae80f5b6239bd9e1b22e9aa...	1	null	2001-04-17 00:00:00 UTC	2004-04-17 12:07:00 UTC

```
SELECT  
  *  
FROM  
  `Target.orders`
```

SCHEMA	DETAILS	PREVIEW	LINEAGE	PREVIEW
Filter Enter property name or value				
<input type="checkbox"/> Field name	Type	Mode	Collation	Default value
<input type="checkbox"/> order_id	STRING	NULLABLE		
<input type="checkbox"/> customer_id	STRING	NULLABLE		
<input type="checkbox"/> order_status	STRING	NULLABLE		
<input type="checkbox"/> order_purchase_timestamp	TIMESTAMP	NULLABLE		
<input type="checkbox"/> order_approved_at	TIMESTAMP	NULLABLE		

Row	order_id	customer_id	order_status	order_purchase_timestamp	order_approved_at	order_delivered_carrier_date	order_delivered_customer_date	order_estimated_delivery_date
1	7a4df5d8cff40...	725e9c756054...	created	2017-11-25 11:10:33 UTC	null	null	null	2017-12-12 00:00:00 UTC
2	35de405031c...	4ee64f4bfc542...	created	2017-12-05 01:07:58 UTC	null	null	null	2018-01-08 00:00:00 UTC
3	b5359909123f...	438449d4af89...	created	2017-12-05 01:07:52 UTC	null	null	null	2018-01-11 00:00:00 UTC
4	dba5062fbda3...	964a6df3d9bdf...	created	2018-02-09 17:21:04 UTC	null	null	null	2018-03-07 00:00:00 UTC
5	90ab3e7d5254...	7d61b9f4f2160...	created	2017-11-06 13:12:34 UTC	null	null	null	2017-12-01 00:00:00 UTC
6	fa65dad1b0e8...	9fa2372a1e49...	shipped	2017-04-20 12:45:34 UTC	2017-04-22 09:1...	2017-04-24 11:31:17 UTC	null	2017-05-18 00:00:00 UTC
7	1df2775799ee...	1240c2e65c46...	shipped	2017-07-13 11:03:05 UTC	2017-07-13 11:1...	2017-07-18 18:17:30 UTC	null	2017-08-14 00:00:00 UTC
8	6190a94657e1...	5fc497dcb639...	shipped	2017-07-11 13:36:30 UTC	2017-07-11 13:4...	2017-07-13 17:55:46 UTC	null	2017-08-14 00:00:00 UTC
9	58ce513a55c7...	530d41b47b9d...	shipped	2017-07-29 18:05:07 UTC	2017-07-29 18:1...	2017-07-31 16:41:59 UTC	null	2017-08-14 00:00:00 UTC
10	088683f795a3...	58d89fd1f8638...	shipped	2017-07-13 10:02:47 UTC	2017-07-14 02:2...	2017-07-20 20:02:58 UTC	null	2017-08-14 00:00:00 UTC

```
SELECT  
  *  
FROM  
  `Target.payments`
```

payments		QUERY ▾	SHARE	COPY	SNAPSHOT	DELETE	EXPORT ▾
SCHEMA	DETAILS	PREVIEW	LINEAGE	PREVIEW			
Filter Enter property name or value							
<input type="checkbox"/> Field name	Type	Mode	Collation	Default value	Policy tags		Description
<input type="checkbox"/> order_id	STRING	NULLABLE					
<input type="checkbox"/> payment_sequential	INTEGER	NULLABLE					
<input type="checkbox"/> payment_type	STRING	NULLABLE					
<input type="checkbox"/> payment_installments	INTEGER	NULLABLE					
<input type="checkbox"/> payment_value	FLOAT	NULLABLE					

Row	order_id	payment_sequential	payment_type	payment_installments	payment_value
1	1a57108394169c0b47d8f876acc9ba2d	2	credit_card	0	129.94
2	744bade1fcf9ff3f31d860ace076d422	2	credit_card	0	58.69
3	8bcbe01d44d147f901cd3192671144db	4	voucher	1	0.0
4	fa65dad1b0e818e3ccc5cb0e39231352	14	voucher	1	0.0
5	6ccb433e00daae1283ccc956189c82ae	4	voucher	1	0.0
6	4637ca194b6387e2d538dc89b124b0ee	1	not_defined	1	0.0
7	00b1cb0320190ca0daa2c88b35206009	1	not_defined	1	0.0
8	45ed6e85398a87c253db47c2d9f48216	3	voucher	1	0.0
9	fa65dad1b0e818e3ccc5cb0e39231352	13	voucher	1	0.0
10	c8c528189310eaa44a745b8d9d26908b	1	not_defined	1	0.0

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```
SELECT
*
FROM
`Target.products`
```

products		QUERY	SHARE	COPY	SNAPSHOT	DELETE	EXPORT
CHEMA	DETAILS	PREVIEW	LINEAGE	PREVIEW			
Filter Enter property name or value							
<input type="checkbox"/> Field name	Type	Mode	Collation	Default value	Policy tags	?	Description
<input type="checkbox"/> product_id	STRING	NULLABLE					
<input type="checkbox"/> product_category	STRING	NULLABLE					
<input type="checkbox"/> product_name_length	INTEGER	NULLABLE					
<input type="checkbox"/> product_description_length	INTEGER	NULLABLE					
<input type="checkbox"/> product_photos_qty	INTEGER	NULLABLE					

Row	product_id	product_category	product_name_length	product_description_length	product_photos_qty	product_weight	product_length	product_height	product_width
1	a0ab96e461d745...	climatization	41	717	1	1050	18	7	8
2	4d7585daba2f8b3...	fixed telephony	53	897	2	300	15	8	9
3	20ae7c024ede61...	fixed telephony	25	455	1	330	17	11	9
4	ad7aebed205805...	Construction Tools Tools	41	2526	2	1150	22	10	9
5	16d096faa275829...	Agro Industria e Comercio	50	1153	1	4050	11	18	10
6	980ecbcc15fe174...	Agro Industria e Comercio	48	157	1	250	17	3	10
7	2b6535d32c6996...	CONSTRUCTION SECURI...	50	428	2	333	16	9	10
8	fdcf45aa23bb831...	Christmas articles	39	258	1	250	16	12	11
9	33abaf0c29c1484...	fixed telephony	41	261	9	100	19	3	11
10	c023dc7b323cb5...	Christmas articles	43	262	1	600	16	15	11

Results per page: 50 ▾ 1 – 50 of 32951 |< < > >|

```

SELECT
*
FROM
`Target.sellers`
```

Sellers		QUERY ▾	+SHARE	COPY	SNAPSHOT	DELETE	EXPORT ▾			
SCHEMA	DETAILS	PREVIEW	LINEAGE	PREVIEW						
Filter Enter property name or value										
Field name	Type	Mode	Collation	Default value	Policy tags ⓘ	Description				
<input type="checkbox"/> seller_id	STRING	NULLABLE								
<input type="checkbox"/> seller_zip_code_prefix	INTEGER	NULLABLE								
<input type="checkbox"/> seller_city	STRING	NULLABLE								
<input type="checkbox"/> seller_state	STRING	NULLABLE								

Row	seller_id	seller_zip_code_prefix	seller_city	seller_state
1	4be2e7f96b4fd749d52dff41f80e39dd	69900	rio branco	AC
2	327b89b872c14d1c0be7235ef4871685	69005	manaus	AM
3	4221a7df464f1fe2955934e30ff3a5a1	48602	bahia	BA
4	651530bf5c607240cccd89a30c9c9712	44600	ipira	BA
5	2b402d5dc42554061f8ea98d1916f148	44900	irece	BA
6	d03698c2efd04a549382afa6623e27fb	45658	ilheus	BA
7	c72de06d72748d1a0dfb2125be43ba63	46430	guanambi	BA
8	fc59392d66ef99377e50356ee4f3b4e1	40243	salvador	BA
9	b00af24704019bd2e1b335e70ad11f7c	40130	salvador	BA
10	eb4a59a06b3948e851a7d7a830bcfc42	41820	salvador	BA

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Data Analysis: -

Finding list of orders in ascending order of date of placing orders.

```

SELECT
o.order_purchase_timestamp,
c.customer_id
FROM
`Target.customers` c
LEFT JOIN
Target.orders o
ON
c.customer_id = o.customer_id
ORDER BY
o.order_purchase_timestamp
```

Row	order_purchase_timestamp	customer_id
1	2016-09-04 21:15:19 UTC	08c5351a6aca1c1589a38f244...
2	2016-09-05 00:15:34 UTC	683c54fc24d40ee9f8a6fc179f...
3	2016-09-13 15:24:19 UTC	622e13439d6b5a0b486c4356...
4	2016-09-15 12:16:38 UTC	86dc2ffce2dff336de2f386a78...
5	2016-10-02 22:07:52 UTC	b106b360fe2ef8849fbcd056f7...
6	2016-10-03 09:44:50 UTC	355077684019f7f60a031656b...
7	2016-10-03 16:56:50 UTC	7ec40b22510fdbea1b08921dd...
8	2016-10-03 21:01:41 UTC	70fc57eeae292675927697fe0...
9	2016-10-03 21:13:36 UTC	6f989332712d3222b6571b1cf...
10	2016-10-03 22:06:03 UTC	b8cf418e97ae795672d326288...

First order Date

```
SELECT
    MIN(order_purchase_timestamp)
FROM
    `Target.orders`
```

Row	f0_
1	2016-09-04 21:15:19 UTC

Last order Date

```
SELECT
    MAX(order_purchase_timestamp)
FROM
    `Target.orders`
```

Row	f0_
1	2018-10-17 17:30:18 UTC

Cities and States of customers ordered during the year 2017

```
SELECT
    o.order_purchase_timestamp,
    o.customer_id,
    c.customer_city,
    c.customer_state
FROM
    Target.orders o
LEFT JOIN
    Target.customers c
ON
    c.customer_id=o.customer_id
WHERE
```

```

o.order_purchase_timestamp BETWEEN '2017-01-01 00:00:00'
AND '2017-12-31 23:59:59'
ORDER BY
o.order_purchase_timestamp

```

Row	order_purchase_timestamp	customer_id	customer_city	customer_state
1	2017-01-05 11:56:06 UTC	c24fc5f9a446b4d8262041b9c...	curitiba	PR
2	2017-01-05 12:01:20 UTC	ff3c6d35b4927c9b96aa6a68...	curitiba	PR
3	2017-01-05 12:06:36 UTC	d2c63ad286e3ca9dd69218008...	curitiba	PR
4	2017-01-05 12:09:08 UTC	e6bee29442c761ff0dfb9a4414...	curitiba	PR
5	2017-01-05 12:11:23 UTC	42d857e22f61f10476f0cda1aa...	curitiba	PR
6	2017-01-05 12:14:58 UTC	64b56cb1662271f54a81d96a2...	curitiba	PR
7	2017-01-05 13:01:48 UTC	efdf4a7c78d7c364046efb6903...	curitiba	PR
8	2017-01-05 13:29:03 UTC	8fa33a3159dfc303b8aecf859...	curitiba	PR
9	2017-01-05 13:31:22 UTC	3a7856f2a103364d279de7f72...	curitiba	PR
10	2017-01-05 13:33:45 UTC	63433f6eb6f0a79cbb24e940d...	curitiba	PR

Total 45101 orders made in that year.

Cities with most customer acquisition

```

SELECT
    c.customer_city,
    (select count(customer_city) from Target.customers t where c.customer_city=t.customer_city ) as Market_share
FROM
    Target.orders o
LEFT JOIN
    Target.customers c
ON
    c.customer_id=o.customer_id
WHERE
    o.order_purchase_timestamp BETWEEN '2017-01-01 00:00:00'
    AND '2017-12-31 23:59:59'
group by customer_city
order by Market_share Desc

```

Row	customer_city	Market_share
1	sao paulo	15540
2	rio de janeiro	6882
3	belo horizonte	2773
4	brasilia	2131
5	curitiba	1521
6	campinas	1444
7	porto alegre	1379
8	salvador	1245
9	guarulhos	1189
10	sao bernardo do campo	938
11	niteroi	849
12	santo andre	797

Total No of cities = 3290

Cities with most Sales

```
SELECT c.customer_city, sum(oi.price) as Total_sales
FROM
  (Target.order_items oi
LEFT JOIN
  Target.orders o ON oi.order_id =o.order_id )
LEFT JOIN
  Target.customers c
ON
  c.customer_id=o.customer_id

WHERE
  o.order_purchase_timestamp BETWEEN '2017-01-01 00:00:00'
  AND '2017-12-31 23:59:59'

group by customer_city
order by Total_sales DESC
```

Row	customer_city	Total_sales
1	sao paulo	782279.340...
2	rio de janeiro	494259.250...
3	belo horizonte	150067.259...
4	brasilia	134057.439...
5	porto alegre	93697.1699...
6	curitiba	85103.7599...
7	salvador	84836.6999...
8	campinas	81850.4399...
9	guarulhos	59767.9000...
10	niteroi	48942.5500...
11	fortaleza	45993.9300...
12	sao bernardo do campo	45848.9400...

Total No of cities = 3273

Here we can see that Rio de Janeiro has market share of **6882** compared to Sao Paulo which has **15540** but total sales is **494260**. Compared to **782280**.

This mean people in Rio de Janeiro spend more than Sao Paulo per person.

*So, we can assume that they probably buy expensive products.

Let's confirm this theory!

```

SELECT
    SUM(price)
FROM
    `Target.order_items`
WHERE
    price > 1000
    AND order_id IN (
        SELECT
            order_id
        FROM
            `Target.orders`
        WHERE
            order_purchase_timestamp BETWEEN '2017-01-01 00:00:00'
            AND '2017-12-31 23:59:59'
            AND customer_id IN (
                SELECT
                    customer_id
                FROM
                    `Target.customers`
                WHERE
                    customer_city = 'rio de janeiro'))

```

Row	total_sales
1	58388.2299...

-- Rio De Janeiro Sales OF products above 1000
-- Total SUM(Sales) - 58388 but total sales is 494260.

Let's check below 1000:-

```

SELECT
    SUM(price)
FROM
    `Target.order_items`
WHERE
    price < 1000
    AND order_id IN (
        SELECT
            order_id
        FROM
            `Target.orders`
        WHERE
            order_purchase_timestamp BETWEEN '2017-01-01 00:00:00'
            AND '2017-12-31 23:59:59'
            AND customer_id IN (
                SELECT
                    customer_id
                FROM
                    `Target.customers`
                WHERE
                    customer_city = 'rio de janeiro'))

```

Row	total_sales
1	435871.020...

```
-- Rio De Janeiro Sales of products below 1000
-- Total Sum(Sales) - 435871 and total sales is 494260.
```

After applying more ranges we got the range of products which are highly sold

```
-- Rio De Janeiro Sales - 2017
-- Total Sales - 494259
SELECT
    SUM(price)
FROM
    `Target.order_items`
WHERE
    price BETWEEN 50
    AND 300
    AND order_id IN (
        SELECT
            order_id
        FROM
            `Target.orders`
        WHERE
            order_purchase_timestamp BETWEEN '2017-01-01 00:00:00'
            AND '2017-12-31 23:59:59'
            AND customer_id IN (
                SELECT
                    customer_id
                FROM
                    `Target.customers`
                WHERE
                    customer_city = 'rio de janeiro'))

```

Row	Total_sales
1	281383.219...

Insite:

Most sold products are in range of 50-300

Now let's see weather any products in the above range are not available in Rio de Janeiro.

```
SELECT
    product_id
FROM
    `Target.order_items`
WHERE
    price BETWEEN 50
    AND 300
    AND order_id IN (
        SELECT
            order_id
        FROM
            `Target.orders`
        WHERE
            order_purchase_timestamp BETWEEN '2017-01-01 00:00:00'
            AND '2017-12-31 23:59:59'
            AND customer_id IN (
```

```

SELECT
    customer_id
FROM
    `Target.customers`
WHERE
    customer_city = 'rio de janeiro'))
```

Row	product_id
1	12a947baa3e0ab6254ebfec78...
2	163e6400e6dadd0fe04775c5e...
3	2615fceb03b49ac6e17fa5b8f2...
4	810cb3c5af006624fa32d3620...
5	a10e0fcbb1c409869c3c6da4eb...
6	a10e0fcbb1c409869c3c6da4eb...
7	aea6413d9a7fadfe4a7479cafe...
8	cde89c19bf58d71bc836b1495...
9	ea44caac707f7f1325182a538...
10	f6e3aeb40c00aec24ade8333c...

Here 2324 products are there range between 50 -300.

```

select distinct product_id , price from `Target.order_items`
where product_id in
(
select product_id from `Target.products`
where product_id not in
(select product_id from `Target.order_items` where price between 50 and 300 and order_id in
(select order_id from `Target.orders` where order_purchase_timestamp BETWEEN '2017-01-01 00:00:00' AND '2017-12-31 23:59:59' and customer_id in
(select customer_id from `Target.customers` where customer_city = 'rio de janeiro'))
))
and price between 50 and 300
order by price desc
```

Row	product_id	price
1	1fd10191b0bcd5aa4020c0721...	300.0
2	50fb810523dc3bd271eb7b6d...	300.0
3	74e901ea4caa0b0488e835043...	300.0
4	98ba4d6506268560a9b0a03b...	300.0
5	9c84b4ffd1a85bf2feb6cba0e2...	300.0
6	a1692a17fad005e22bf5a5435...	300.0
7	bf2f8d918c34551d0bc8861f37...	300.0
8	c155f6ba0dae0f11299f1e33faf...	300.0
9	c71bf92cf123eb294304073fc1...	300.0
10	cfe9e8e1f0400c8cc665d41722...	300.0

Recommendations :-

Here 21573 products are in range of 50-300 that should also be sold in Rio de Janeiro.

```
select extract(year from order_purchase_timestamp) as year ,sum(p.payment_value) as  
yearly_sales from `Target.orders` o join `Target.payments` p on  
o.order_id = p.order_id  
group by year  
order by year
```

Row	year	yearly_sales
1	2016	59362.3400...
2	2017	7249746.72...
3	2018	8699763.04...

Here, we can see growing trend of E-Commerce in Brazil.

```
What time do Brazilian customers tend to buy (Dawn, Morning, Afternoon or Night)  
select count(*) as No_of_Purchases, Prefered_Time  
from  
(select  
case  
when extract(HOUR from order_purchase_timestamp) < 6  
then 'Dawn'  
when extract(HOUR from order_purchase_timestamp) < 12  
then 'Morning'  
when extract(HOUR from order_purchase_timestamp) < 18  
then 'Afternoon'  
else 'Night'  
end as Prefered_Time  
from `Target.orders`)
```

```
group by Prefered_Time
```

Row	No_of_Purchase	Prefered_Time
1	22240	Morning
2	4740	Dawn
3	38361	Afternoon
4	34100	Night

Here Brazilians prefer to order at **Afternoon** then at **Night**, then at **Morning** and least during **Dawn**.

```
Time_to_delivery = order_purchase_timestamp-order_delivered_customer_date
```

```
select o.customer_id,c.customer_state, (o.order_purchase_timestamp-  
order_delivered_customer_date) as time_to_delivery  
from `Target.orders` o  
join `Target.customers` c on c.customer_id = o.customer_id  
order by time_to_delivery desc
```

Row	customer_id	customer_state	time_to_delivery
1	b19da0df0271e8a3553e3670f...	RJ	0-0 0 -12:48:7
2	922a46283625e9c096bfd9989...	SP	0-0 0 -18:45:10
3	6aef84c09844a371d82a49152...	SP	0-0 0 -20:31:39
4	ff58662c328f81d3ee549c9caa...	BA	0-0 0 -20:43:20
5	118295a853acb536efff13740f...	SP	0-0 0 -21:22:41
6	198f511b5a75bf936a96f1d476...	SP	0-0 0 -21:25:11
7	225aed9e773953084b09cf496...	SP	0-0 0 -22:27:49
8	344423c2e26d47d2b6d3dd36...	SP	0-0 0 -22:30:59
9	c5e200d485ae35a7036cc2e7c...	SP	0-0 0 -23:37:30
10	18c934f4cdc994cd04eb13bce...	SP	0-0 0 -23:39:18

Diff_estimated_delivery=order_estimated_delivery_date_order_delivered_customer_date

```
select o.customer_id,c.customer_state, (o.order_estimated_delivery_date-o.order_delivered_customer_date) as diff_estimated_delivery
from `Target.orders` o
join `Target.customers` c on c.customer_id = o.customer_id
order by diff_estimated_delivery desc
```

Row	customer_id	customer_state	diff_estimated_delivery
1	a5fbb6579eacbeb02752a143b...	SP	0-0 0 3504:23:13
2	964253ff0e4e08180064764a4...	MA	0-0 0 3345:32:15
3	32cef4bdd6bfa50612d81dc77...	RS	0-0 0 3223:24:17
4	6357ffffb5704244d552615bbfc...	SP	0-0 0 2962:24:6
5	6210a37f9d6a265a4f3fbe2c21...	RJ	0-0 0 2602:10:53
6	b882cbae40f34e60a3ec3efefa...	SP	0-0 0 1993:41:37
7	816642e9995c2461f2172469e...	SP	0-0 0 1990:7:26
8	5fd5cb96f515996e88d84c610...	ES	0-0 0 1855:47:10
9	0f9043c635f86f7eb1e8fc0770...	MG	0-0 0 1852:38:21
10	6e5b6ba2e8de70d9e920b541a...	MG	0-0 0 1851:37:50

-- Average Freight Value of 5 states

```
select c.customer_state,avg(freight_value) as avg_freight from
(select oi.freight_value, o.order_id, o.customer_id
from `Target.orders` o
join `Target.order_items` oi on o.order_id = oi.order_id) as a
join `Target.customers` c on c.customer_id = a.customer_id
group by c.customer_state
order by avg_freight desc limit 5
```

Row	customer_state	avg_freight
1	RR	42.9844230...
2	PB	42.7238039...
3	RO	41.0697122...
4	AC	40.0733695...
5	PI	39.1479704...

Top 5 states where delivery is really fast/ not so fast compared to estimated date

```
select o.customer_id,c.customer_state, (o.order_estimated_delivery_date-o.order_delivered_customer_date) as diff_estimated_delivery
from `Target.orders` o
join `Target.customers` c on c.customer_id =o.customer_id
order by diff_estimated_delivery desc limit 5
```

Row	customer_id	customer_state	diff_estimated_delivery
1	a5fbb6579eacbeb02752a143b...	SP	0-0 0 3504:23:13
2	964253ff0e4e08180064764a4...	MA	0-0 0 3345:32:15
3	32cef4bdd6bfa50612d81dc77...	RS	0-0 0 3223:24:17
4	6357ffb5704244d552615bbfc...	SP	0-0 0 2962:24:6
5	6210a37f9d6a265a4f3fbe2c21...	RJ	0-0 0 2602:10:53

-- Top 5 states with highest/lowest average time to delivery

```
select o.customer_id,c.customer_state, avg(o.order_purchase_timestamp-
order_delivered_customer_date) as avg_time_to_delivery
from `Target.orders` o
join `Target.customers` c on c.customer_id =o.customer_id
group by customer_state,customer_id
order by avg_time_to_delivery desc limit 5
```

Row	customer_id	customer_state	avg_time_to_delivery
1	b19da0df0271e8a3553e3670f...	RJ	0-0 0 -12:48:7
2	922a46283625e9c096bfd9989...	SP	0-0 0 -18:45:10
3	6aef84c09844a371d82a49152...	SP	0-0 0 -20:31:39
4	ff58662c328f81d3ee549c9caa...	BA	0-0 0 -20:43:20
5	118295a853acb536efff13740f...	SP	0-0 0 -21:22:41

```
select o.customer_id,c.customer_state, avg(o.order_purchase_timestamp-
order_delivered_customer_date) as avg_time_to_delivery
from `Target.orders` o
join `Target.customers` c on c.customer_id =o.customer_id
group by customer_state,customer_id
order by avg_time_to_delivery limit 5
```

Row	customer_id	customer_state	avg_time_to_delivery
1	725e9c75605414b21fd8c8d5a...	RJ	null
2	4ee64f4bfc542546f422da0aeb...	RS	null
3	438449d4af8980d107bf04571...	SP	null
4	964a6df3d9bdf60fe3e7b8bb69...	DF	null
5	74c1b0f1f01605046641f00...	PP	null

Payment type analysis:

Count of orders based on the no. of payment installments

```
select payment_installments,max(Total_orders) as Total_orders from
(select payment_installments,
count(*) over(partition by payment_installments order by payment_installments )as T
otal_orders
```

```

from `Target.payments`  

)  

group by payment_installments

```

Row	payment_installments	Total_orders
1	0	2
2	1	52546
3	2	12413
4	3	10461
5	4	7098
6	5	5239
7	6	3920
8	7	1626
9	8	4268
10	9	644
11	10	5328
12	11	23

Month over Month count of orders for different payment types-

Credit Card:-

```

SELECT extract (month from o.order_purchase_timestamp) as Months ,  

COUNT(p.order_id) as monthly_order  

FROM `Target.orders` o join `Target.payments` p on p.order_id=o.order_id  

where p.payment_type = 'credit_card'  

GROUP BY Months  

order by Months

```

Row	Months	monthly_order
1	1	477
2	2	424
3	3	591
4	4	572
5	5	613
6	6	563
7	7	645
8	8	589
9	9	302
10	10	318
11	11	387
12	12	294

Voucher: -

```
SELECT extract (month from o.order_purchase_timestamp) as Months ,
COUNT(p.order_id) as monthly_order
FROM `Target.orders` o join `Target.payments` p on p.order_id=o.order_id
where p.payment_type = 'voucher'
GROUP BY Months
order by Months
```

Row	Months	monthly_order
1	1	477
2	2	424
3	3	591
4	4	572
5	5	613
6	6	563
7	7	645
8	8	589
9	9	302
10	10	318
11	11	387
12	12	294

Not_defined: -

```
SELECT extract (month from o.order_purchase_timestamp) as Months ,
COUNT(p.order_id) as monthly_order
FROM `Target.orders` o join `Target.payments` p on p.order_id=o.order_id
where p.payment_type = 'not defined'
GROUP BY Months
order by Months
```

Row	Months	monthly_order
1	8	2
2	9	1

debit_card: -

```
SELECT extract (month from o.order_purchase_timestamp) as Months ,
COUNT(p.order_id) as monthly_order
FROM `Target.orders` o join `Target.payments` p on p.order_id=o.order_id
where p.payment_type = 'debit_card'
GROUP BY Months
order by Months
```

Row	Months	monthly_order
1	1	118
2	2	82
3	3	109
4	4	124
5	5	81
6	6	209
7	7	264
8	8	311
9	9	43
10	10	54
11	11	70
12	12	64

UPI :-

```
SELECT extract (month from o.order_purchase_timestamp) as Months ,
COUNT(p.order_id) as monthly_order
FROM `Target.orders` o join `Target.payments` p on p.order_id=o.order_id
where p.payment_type = 'UPI'
GROUP BY Months
order by Months
```

Row	Months	monthly_order
1	1	1715
2	2	1723
3	3	1942
4	4	1783
5	5	2035
6	6	1807
7	7	2074
8	8	2077
9	9	903
10	10	1056
11	11	1509
12	12	1160