SQL Documentry

Metrics

1. Total Revenues

```
SELECT ROUND(SUM(price), 2) AS Total_Revenues
FROM [E-Commerce-Public].dbo.order_items_dataset
```

Output:

	Total_Revenues
1	13591643.7

2. Average Order Items

```
SELECT CAST(
    CAST(SUM(order_item_id) AS DECIMAL(10, 2)) / CAST(COUNT(DISTINCT(order_id)) AS DECIMAL(10, 2))
    AS DECIMAL(10, 2)) AS Avg_Order_Items
FROM [E-Commerce-Public].dbo.order_items_dataset
```

Output:

	Avg_Order_Items
1	1.37

3. Total Orders

```
SELECT COUNT(DISTINCT(order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.order_items_dataset
```

Output:

	Total_Orders
1	98666

4. Average Review Score

```
SELECT CAST(
    CAST(SUM(review_score) AS DECIMAL(10, 2)) / CAST(COUNT(DISTINCT(review_id)) AS DECIMAL(10, 2))
    AS DECIMAL(10, 2)) AS Avg_Review_Score
FROM [E-Commerce-Public].dbo.order_reviews_dataset
```

Output:

	Avg_Review_Score
1	4.12

5. Average Freight Values

```
SELECT CAST(
    CAST(SUM(freight_value) AS DECIMAL(10, 2)) / CAST(COUNT(DISTINCT(order_id)) AS DECIMAL(10, 2))
    AS DECIMAL(10, 2)) AS Avg_Freight_Values
FROM [E-Commerce-Public].dbo.order_items_dataset
```

Output:

	Avg_Freight_Values
1	22.82

Graph

1. Percentage Orders by Status Orders

```
WITH RankedStatus AS (
SELECT
    order_status as Order_Status,
    CAST(
        CAST(COUNT(DISTINCT(order_id)) AS DECIMAL(10, 2)) * 100 / (SELECT COUNT(DISTINCT(order_id)) FROM [E-Commerce-Public].dbo.orders_dataset
        )   AS DECIMAL(10, 2)) AS Perc_of_Status_Orders,
    ROW_NUMBER() OVER (ORDER BY
                    CAST(
                        CAST(COUNT(DISTINCT(order_id)) AS DECIMAL(10, 2)) * 100
                            / (SELECT COUNT(DISTINCT(order_id)) FROM [E-Commerce-Public].dbo.orders_dataset
                        )   AS DECIMAL(10, 2)) DESC) AS Status_Rank
FROM [E-Commerce-Public].dbo.orders_dataset
GROUP BY order_status
)

SELECT
    Order_Status,
    Perc_of_Status_Orders
FROM RankedStatus
WHERE Status_Rank <= 4

UNION ALL

SELECT
    'others' AS Order_Status,
    SUM(Perc_of_Status_Orders)
FROM RankedStatus
WHERE Status_Rank >= 5
ORDER BY Perc_of_Status_Orders DESC
```

Output:

	Order_Status	Perc_of_Status_Orders
1	delivered	97.02
2	shipped	1.11
3	canceled	0.63
4	others	0.63
5	unavailable	0.61

2. Percentage Revenues by Order Payment

```
SELECT opd.payment_type,
    CAST(
    SUM(oid.price) * 100 / (SELECT SUM(price) FROM [E-Commerce-Public].dbo.order_items_dataset)
    AS DECIMAL(10, 3)) AS Perc_Total_Revenue
FROM [E-Commerce-Public].dbo.order_payments_dataset opd
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON opd.order_id = oid.order_id
GROUP BY opd.payment_type
ORDER BY Perc_Total_Revenue DESC
```

Output:

	payment_type	Perc_Total_Revenue
1	credit_card	80.743
2	boleto	17.596
3	voucher	4.852
4	debit_card	1.352

3. Percentage Orders by Order Payment

```
SELECT opd.payment_type,
    CAST(
        CAST(COUNT(DISTINCT(oid.order_id)) AS DECIMAL(10, 2)) * 100
        / (SELECT COUNT(DISTINCT(order_id)) FROM [E-Commerce-Public].dbo.order_items_dataset)
    AS DECIMAL(10, 2)) AS Perc_Total_Revenue
FROM [E-Commerce-Public].dbo.order_payments_dataset opd
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON opd.order_id = oid.order_id
GROUP BY opd.payment_type
ORDER BY Perc_Total_Revenue DESC
```

Output:

	payment_type	Perc_Total_Revenue
1	credit_card	77.02
2	boleto	19.88
3	voucher	3.82
4	debit_card	1.54

4. Total Revenues by Month

```
SELECT DATEPART(MONTH, order_purchase_timestamp) AS Monthly,
    CAST(SUM(price) AS DECIMAL(10, 2)) AS Total_Revenue
FROM [E-Commerce-Public].dbo.orders_dataset od
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON od.order_id = oid.order_id
GROUP BY DATEPART(MONTH, order_purchase_timestamp)
ORDER BY DATEPART(MONTH, order_purchase_timestamp)
```

Output:

	Monthly	Total_Revenue
1	1	1070343.23
2	2	1091481.73
3	3	1357557.74
4	4	1356574.98
5	5	1502588.82
6	6	1298162.91
7	7	1393538.70
8	8	1428658.01
9	9	624814.05
10	10	713727.09
11	11	1010271.37
12	12	743925.07

5. Total Orders by Month

```
SELECT DATEPART(MONTH, order_purchase_timestamp) AS Monthly,
    COUNT(DISTINCT(order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.orders_dataset
GROUP BY DATEPART(MONTH, order_purchase_timestamp)
ORDER BY DATEPART(MONTH, order_purchase_timestamp)
```

Output:

	Monthly	Total_Orders
1	1	8069
2	2	8508
3	3	9893
4	4	9343
5	5	10573
6	6	9412
7	7	10318
8	8	10843
9	9	4305
10	10	4959
11	11	7544
12	12	5674

6. Total Revenues by Hour

```
SELECT DATEPART(HOUR, order_purchase_timestamp) AS Hourly,
    CAST(SUM(price) AS DECIMAL(10, 2)) AS Total_Revenue
FROM [E-Commerce-Public].dbo.orders_dataset od
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON od.order_id = oid.order_id
GROUP BY DATEPART(HOUR, order_purchase_timestamp)
ORDER BY DATEPART(HOUR, order_purchase_timestamp)
```

Output:

	Hourly	Total_Revenue
1	0	316817.97
2	1	150011.92
3	2	54833.01
4	3	35525.11
5	4	24281.59
6	5	22395.52
7	6	57212.71
8	7	152912.12
9	8	391527.38
10	9	679890.41
11	10	835327.68
12	11	875456.09

	Hourly	Total_Revenue
13	12	847175.54
14	13	871733.99
15	14	948289.93
16	15	903245.09
17	16	935293.71
18	17	838911.74
19	18	821292.31
20	19	823441.24
21	20	853886.40
22	21	838301.95
23	22	787403.22
24	23	526477.07

7. Total Orders by Hour

```
SELECT DATEPART(HOUR, order_purchase_timestamp) AS Hourly,
    COUNT(DISTINCT(order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.orders_dataset
GROUP BY DATEPART(HOUR, order_purchase_timestamp)
ORDER BY DATEPART(HOUR, order_purchase_timestamp)
```

Output:

	Hourly	Total_Orders		Hourly	Total_Orders
1	0	2394	13	12	5995
2	1	1170	14	13	6518
3	2	510	15	14	6569
4	3	272	16	15	6454
5	4	206	17	16	6675
6	5	188	18	17	6150
7	6	502	19	18	5769
8	7	1231	20	19	5982
9	8	2967	21	20	6193
10	9	4785	22	21	6217
11	10	6177	23	22	5816
12	11	6578	24	23	4123

8. Top 5 Average Review Score by Customer State

```
SELECT TOP 5 cd.customer_state AS State,
    CAST(
        CAST(SUM(ord.review_score) AS DECIMAL(10, 2)) / CAST(COUNT(cd.customer_state) AS DECIMAL(10, 2))
    AS DECIMAL(10, 2)
    ) AS Avg_Review_Score
FROM [E-Commerce-Public].dbo.order_reviews_dataset ord
INNER JOIN [E-Commerce-Public].dbo.orders_dataset od
    ON ord.order_id = od.order_id
INNER JOIN [E-Commerce-Public].dbo.customers_dataset cd
    ON cd.customer_id = od.customer_id
GROUP BY cd.customer_state
ORDER BY Avg_Review_Score DESC
```

Output:

	State	Avg_Review_Score
1	AP	4.19
2	PR	4.18
3	AM	4.18
4	SP	4.17
5	MG	4.14

9. Bottom 5 Average Review Score by Customer State

```
SELECT TOP 5 cd.customer_state AS State,
    CAST(
    CAST(SUM(ord.review_score) AS DECIMAL(10, 2)) / CAST(COUNT(cd.customer_state) AS DECIMAL(10, 2))
    AS DECIMAL(10, 2)
    ) AS Avg_Review_Score
FROM [E-Commerce-Public].dbo.order_reviews_dataset ord
INNER JOIN [E-Commerce-Public].dbo.orders_dataset od
    ON ord.order_id = od.order_id
INNER JOIN [E-Commerce-Public].dbo.customers_dataset cd
    ON cd.customer_id = od.customer_id
GROUP BY cd.customer_state
ORDER BY Avg_Review_Score ASC
```

Output:

	State	Avg_Review_Score
1	RR	3.61
2	AL	3.75
3	MA	3.76
4	SE	3.81
5	PA	3.85

10. Top 10 Average Review Score by Customer Product

```
SELECT TOP 5 pcnt.product_category_name_english AS Product_Name,
    CAST(
        CAST(SUM(ord.review_score) AS DECIMAL(10,2)) / COUNT(pcnt.product_category_name)
    AS DECIMAL(10,2))  AS Avg_Review_Score
FROM [E-Commerce-Public].dbo.order_items_dataset oid
INNER JOIN [E-Commerce-Public].dbo.product_dataset pd
    ON oid.product_id = pd.product_id
INNER JOIN [E-Commerce-Public].dbo.product_category_name_translation pcnt
    ON pcnt.product_category_name = pd.product_category_name
INNER JOIN [E-Commerce-Public].dbo.order_reviews_dataset ord
    ON ord.order_id = oid.order_id
GROUP BY pcnt.product_category_name_english
ORDER BY Avg_Review_Score DESC
```

Output:

	Product_Name	Avg_Review_Score
1	cds_dvds_musicals	4.64
2	fashion_childrens_clothes	4.50
3	books_general_interest	4.45
4	costruction_tools_tools	4.44
5	flowers	4.42

11. Bottom 10 Average Review Score by Customer Product

```
SELECT TOP 5 pcnt.product_category_name_english AS Product_Name,
    CAST(
        CAST(SUM(ord.review_score) AS DECIMAL(10,2)) / COUNT(pcnt.product_category_name)
    AS DECIMAL(10,2))  AS Avg_Review_Score
FROM [E-Commerce-Public].dbo.order_items_dataset oid
INNER JOIN [E-Commerce-Public].dbo.product_dataset pd
    ON oid.product_id = pd.product_id
INNER JOIN [E-Commerce-Public].dbo.product_category_name_translation pcnt
    ON pcnt.product_category_name = pd.product_category_name
INNER JOIN [E-Commerce-Public].dbo.order_reviews_dataset ord
    ON ord.order_id = oid.order_id
GROUP BY pcnt.product_category_name_english
ORDER BY Avg_Review_Score ASC
```

Output:

	Product_Name	Avg_Review_Score
1	security_and_services	2.50
2	diapers_and_hygiene	3.26
3	office_furniture	3.49
4	home_comfort_2	3.63
5	fashion_male_clothing	3.64

12. Top 10 Total Revenue by Customer City

```
SELECT TOP 10
    cd.customer_city AS Customer_City,
    ROUND(SUM(oid.price), 2) AS Total_Revenue
FROM [E-Commerce-Public].dbo.orders_dataset od
INNER JOIN [E-Commerce-Public].dbo.customers_dataset cd
    ON od.customer_id = cd.customer_id
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON oid.order_id = od.order_id
GROUP BY cd.customer_city
ORDER BY Total_Revenue DESC
```

Output:

	Customer_City	Total_Revenue
1	sao paulo	1914924.54
2	rio de janeiro	992538.86
3	belo horizonte	355611.13
4	brasilia	301920.25
5	curitiba	211738.06
6	porto alegre	190562.08
7	campinas	187844.53
8	salvador	181104.42
9	guarulhos	144268.39
10	niteroi	117907.12

13. Top 10 Total Order by Customer City

```
SELECT TOP 10
    cd.customer_city,
    COUNT(DISTINCT(od.order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.customers_dataset cd
INNER JOIN [E-Commerce-Public].dbo.orders_dataset od
    ON od.customer_id = cd.customer_id
GROUP BY cd.customer_city
ORDER BY Total_Orders DESC
```

Output:

	customer_city	Total_Orders
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

14. Top 10 Total Revenue by Product

```
SELECT TOP 10 pcnt.product_category_name_english AS Product_Name,
    CAST(SUM(oid.price) AS DECIMAL(10, 3)) AS Total_Revenue
FROM [E-Commerce-Public].dbo.order_items_dataset oid
INNER JOIN [E-Commerce-Public].dbo.product_dataset pd
    ON oid.product_id = pd.product_id
INNER JOIN [E-Commerce-Public].dbo.product_category_name_translation pcnt
    ON pcnt.product_category_name = pd.product_category_name
GROUP BY pcnt.product_category_name_english
ORDER BY Total_Revenue DESC
```

Output:

	Product_Name	Total_Revenue
1	health_beauty	1258681.341
2	watches_gifts	1205005.678
3	bed_bath_table	1036988.680
4	sports_leisure	988048.969
5	computers_accessories	911954.317
6	furniture_decor	729762.492
7	cool_stuff	635290.852
8	housewares	632248.661
9	auto	592720.111
10	garden_tools	485256.462

15. Bottom 10 Total Revenue by Product

```
SELECT TOP 10 pcnt.product_category_name_english AS Product_Name,
    CAST(SUM(oid.price) AS DECIMAL(10, 3)) AS Total_Revenue
FROM [E-Commerce-Public].dbo.order_items_dataset oid
INNER JOIN [E-Commerce-Public].dbo.product_dataset pd
    ON oid.product_id = pd.product_id
INNER JOIN [E-Commerce-Public].dbo.product_category_name_translation pcnt
    ON pcnt.product_category_name = pd.product_category_name
GROUP BY pcnt.product_category_name_english
ORDER BY Total_Revenue ASC
```

Output:

	Product_Name	Total_Revenue
1	security_and_services	283.290
2	fashion_childrens_clothes	569.850
3	cds_dvds_musicals	730.000
4	home_comfort_2	760.270
5	flowers	1110.040
6	diapers_and_hygiene	1567.590
7	arts_and_craftmanship	1814.010
8	la_cuisine	2054.990
9	fashion_sport	2119.510
10	fashio_female_clothing	2803.640

16. Top 10 Total Order by Product

```
SELECT TOP 10 pcnt.product_category_name_english AS Product_Name,
    COUNT(DISTINCT(oid.order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.order_items_dataset oid
INNER JOIN [E-Commerce-Public].dbo.product_dataset pd
    ON oid.product_id = pd.product_id
INNER JOIN [E-Commerce-Public].dbo.product_category_name_translation pcnt
    ON pcnt.product_category_name = pd.product_category_name
GROUP BY pcnt.product_category_name_english
ORDER BY Total_Orders DESC
```

Output:

	Product_Name	Total_Orders
1	bed_bath_table	9417
2	health_beauty	8836
3	sports_leisure	7720
4	computers_accessories	6689
5	furniture_decor	6449
6	housewares	5884
7	watches_gifts	5624
8	telephony	4199
9	auto	3897
10	toys	3886

17. Bottom 10 Total Order by Product

```
SELECT TOP 10 pcnt.product_category_name_english AS Product_Name,
    COUNT(DISTINCT(oid.order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.order_items_dataset oid
INNER JOIN [E-Commerce-Public].dbo.product_dataset pd
    ON oid.product_id = pd.product_id
INNER JOIN [E-Commerce-Public].dbo.product_category_name_translation pcnt
    ON pcnt.product_category_name = pd.product_category_name
GROUP BY pcnt.product_category_name_english
ORDER BY Total Orders ASC
```

Output:

	Product_Name	Total_Orders
1	security_and_services	2
2	fashion_childrens_clothes	8
3	cds_dvds_musicals	12
4	la_cuisine	13
5	arts_and_craftmanship	23
6	home_comfort_2	24
7	diapers_and_hygiene	27
8	fashion_sport	27
9	flowers	29
10	furniture_mattress_and_upholstery	38

18. Top 5 Total Revenue by Customer State

```
SELECT TOP 5
    cd.customer_state AS Customer_State,
    ROUND(SUM(oid.price), 2) AS Total_Revenue
FROM [E-Commerce-Public].dbo.orders_dataset od
INNER JOIN [E-Commerce-Public].dbo.customers_dataset cd
    ON od.customer_id = cd.customer_id
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON oid.order_id = od.order_id
GROUP BY cd.customer_state
ORDER BY Total_Revenue DESC
```

Output:

	Customer_State	Total_Revenue
1	SP	5202955.05
2	RJ	1824092.67
3	MG	1585308.03
4	RS	750304.02
5	PR	683083.76

19. Bottom 10 Total Revenue by Customer State

```
SELECT TOP 5
    cd.customer_state AS Customer_State,
    ROUND(SUM(oid.price), 2) AS Total_Revenue
FROM [E-Commerce-Public].dbo.orders_dataset od
INNER JOIN [E-Commerce-Public].dbo.customers_dataset cd
    ON od.customer_id = cd.customer_id
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON oid.order_id = od.order_id
GROUP BY cd.customer_state
ORDER BY Total_Revenue ASC
```

Output:

	Customer_State	Total_Revenue
1	RR	7829.43
2	AP	13474.3
3	AC	15982.95
4	AM	22356.84
5	RO	46140.64

20. Top 5 Total Order by Customer State

```
SELECT TOP 5
    cd.customer_state AS Customer_State,
    COUNT(DISTINCT(oid.order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.orders_dataset od
INNER JOIN [E-Commerce-Public].dbo.customers_dataset cd
    ON od.customer_id = cd.customer_id
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON oid.order_id = od.order_id
GROUP BY cd.customer_state
ORDER BY Total_Orders DESC
```

Output:

	Customer_State	Total_Orders
1	SP	41375
2	RJ	12762
3	MG	11544
4	RS	5432
5	PR	4998

21. Bottom 5 Total Order by Customer State

```
SELECT TOP 5
    cd.customer_state AS Customer_State,
    COUNT(DISTINCT(oid.order_id)) AS Total_Orders
FROM [E-Commerce-Public].dbo.orders_dataset od
INNER JOIN [E-Commerce-Public].dbo.customers_dataset cd
    ON od.customer_id = cd.customer_id
INNER JOIN [E-Commerce-Public].dbo.order_items_dataset oid
    ON oid.order_id = od.order_id
GROUP BY cd.customer_state
ORDER BY Total_Orders ASC
```

Output:

	Customer_State	Total_Orders
1	RR	46
2	AP	68
3	AC	81
4	AM	147
5	RO	247