Logistics and Delivery Analysis

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Dataset: Link

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Logistics and Delivery Analysis

CREATE DATABASE **logistics_and_delivery_analysis;**
USE **logistics_and_delivery_analysis**;

 # Find Total Orders by Region
CREATE view Total_orders AS (
SELECT region, COUNT(*) as order_count
FROM Orders
GROUP BY region);

select * from Total_orders;

region	COUNT(*)
West	260
East	233
South	270
North	237

 # Calculate the average delivery time per region.
CREATE VIEW AvgDeliveryTime AS (SELECT region, AVG(delivery_time)
FROM orders
GROUP BY region);

select * from AvgDeliveryTime;

region	AVG(delivery_time)
West	58.2846
East	61.6781
South	59.1185
North	57.2447

 # Analyze delivery time trends based on the order date.
SELECT DATE(order_date) AS OrderDate,
round(AVG(delivery_time)) AS AvgDeliveryTime
FROM orders
GROUP BY DATE(order_date)
ORDER BY DATE(order_date);

OrderDate	AvgDeliveryTime
2022-01-01	60
2022-01-03	112
2022-01-05	40
2022-01-06	12
2022-01-07	22
2022-01-09	4
2022-01-10	47
2022-01-12	65
2022-01-13	49
2022-01-15	75

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 # Find Orders with Delayed Delivery

```
SELECT * FROM orders
WHERE delivery_status = 'Delayed';
```

order_id	customer_id	order_date	delivery_date	delivery_status	delivery_time	region	order_value
1	61	30-10-2022	03-11-2022	Delayed	107	West	379.38
5	278	28-11-2022	02-12-2022	Delayed	113	North	436.71
18	109	20-12-2023	23-12-2023	Delayed	79	South	171.05
19	88	24-05-2023	27-05-2023	Delayed	95	North	367.33
25	128	16-10-2022	20-10-2022	Delayed	112	East	302.72
27	129	02-09-2023	07-09-2023	Delayed	120	West	143.45
44	192	14-09-2023	17-09-2023	Delayed	84	West	257.28
70	179	27-03-2023	30-03-2023	Delayed	94	East	56.65
79	191	23-07-2023	27-07-2023	Delayed	107	South	265.94
82	126	04-04-2022	09-04-2022	Delayed	120	South	490.38
93	177	29-03-2023	02-04-2023	Delayed	102	East	334.73

 # Calculate Delayed Deliveries by Region

```
SELECT region, COUNT(*) AS delayed_orders
FROM Orders
WHERE delivery_status = 'Delayed'
GROUP BY region
ORDER BY delayed_orders DESC;
```

region	delayed_orders
South	33
East	33
West	28
North	27

 # Identify Regions with Most Canceled Orders

```
SELECT region, COUNT(*) AS canceled_orders
FROM Orders
WHERE delivery_status = 'Canceled'
GROUP BY region
ORDER BY canceled_orders DESC;
```

region	canceled_orders
West	41
South	28
East	27
North	25

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 # Find Average Delivery Time by Status

```
CREATE VIEW Avg_delivery_time AS(
SELECT delivery_status, AVG(delivery_time)
FROM Orders
WHERE delivery_time IS NOT NULL
GROUP BY delivery_status);

select * from Avg_delivery_time;
```

delivery_status	AVG(delivery_time)
Delayed	96.5868
Delivered	47.2309
Canceled	95.5868

 # Find Top Customers by Order Val

```
CREATE VIEW Top_customers_spent AS(
SELECT C.name, C.region, round(SUM(O.order_value))
FROM Customers C
JOIN Orders O ON C.customer_id = O.customer_id
GROUP BY C.name, C.region
LIMIT 5);

select * from Top_customers_spent;
```

name	region	round(SUM(O.order_value))
Sarah Brown	West	610
Chris Taylor	East	590
Katie Jackson	South	1560
Alex Taylor	West	1910
Katie Martin	North	498

 # Find Delivery Personnel Performance by Region

```
CREATE VIEW Total_deliveries AS(
SELECT name, region, total_deliveries
FROM Personnel
ORDER BY total_deliveries DESC);

select * from Total_deliveries;
```

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name	region	total_deliveries
Linda Rodriguez	West	995
Kimberly Brown	West	992
Michael Johnson	West	975
Charles Perez	West	967
Jessica Green	West	951
Daniel Lopez	South	944
Joseph Wilson	North	920
Melissa Carter	North	871
Emily Nelson	North	827
Lisa Carter	North	821
Elizabeth Lee	West	817

 # Find Orders count Delivered on Time

```
CREATE VIEW on_time_deliveries AS (
SELECT COUNT(*)
FROM Orders
WHERE delivery_status = 'Delivered' AND delivery_time <= 48);

select * from on_time_deliveries;
```

COUNT(*)
409

 # Find Top 5 Longest Deliveries

```
SELECT * FROM orders
ORDER BY delivery_time DESC
LIMIT 5;
```

order_id	customer_id	order_date	delivery_date	delivery_status	delivery_time	region	order_value
169	207	23-10-2022		Canceled	120	West	345.56
606	80	27-06-2022	02-07-2022	Delivered	120	North	255.5
313	171	20-04-2022	25-04-2022	Delayed	120	East	337.47
82	126	04-04-2022	09-04-2022	Delayed	120	South	490.38
27	129	02-09-2023	07-09-2023	Delayed	120	West	143.45

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 # Find Delivery Time Analysis

```
SELECT
   CASE
      WHEN delivery_time <= 24 THEN '0-24 hours'
      WHEN delivery_time <= 48 THEN '25-48 hours'
      WHEN delivery_time <= 72 THEN '49-72 hours'
      ELSE '72+ hours'
   END AS delivery_time_range,
   COUNT(*) AS total_orders
FROM Orders
WHERE delivery_time IS NOT NULL
GROUP BY delivery_time_range;
```

delivery_time_range	total_orders
72+ hours	374
0-24 hours	205
49-72 hours	217
25-48 hours	204

 # Find Order Value Trends by Month

```
SELECT DATE_FORMAT(order_date, '%Y-%M') AS order_month, round(SUM(order_value)) AS
monthly_revenue
FROM orders
GROUP BY order_month
ORDER BY order_month;
```

order_month	monthly_revenue
2022-April	11625
2022-August	15470
2022-December	7279
2022-February	11870
2022-January	9080
2022-July	10375
2022-June	12111
2022-March	9148
2022-May	7962
2022-November	11307

 # Find Customer Retention Rate

```
SELECT region,
      COUNT(DISTINCT customer_id) AS unique_customers,
      COUNT(*) AS total_orders,
      ROUND((COUNT(*) / COUNT(DISTINCT customer_id)), 2) AS avg_orders_per_customer
FROM Orders
GROUP BY region;
```

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region	unique_customers	total_orders	avg_orders_per_customer
East	71	233	3.28
North	72	237	3.29
South	74	270	3.65
West	74	260	3.51

 # Find Most Frequent Customers

```
SELECT C.name, COUNT(O.order_id) AS total_orders
FROM Customers C
JOIN orders O ON C.customer_id = O.customer_id
GROUP BY C.name
ORDER BY total_orders DESC
LIMIT 5;
```

name	total_orders
Alex Taylor	25
Michael White	25
David Martin	23
Alex Jackson	23
Jane Martin	22

 # Find Order Status Breakdown

```
CREATE VIEW count_delivery AS (
SELECT delivery_status, COUNT(*)
FROM Orders
GROUP BY delivery_status);

select * from count_delivery;
```

delivery_status	COUNT(*)
Delayed	121
Delivered	758
Canceled	121

 # Find Revenue by Region

```
CREATE VIEW total_revenue AS (
SELECT region, round(SUM(order_value))
FROM Orders
GROUP BY region);
```

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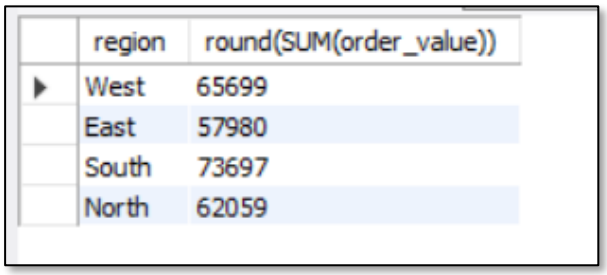
select * from total_revenue;

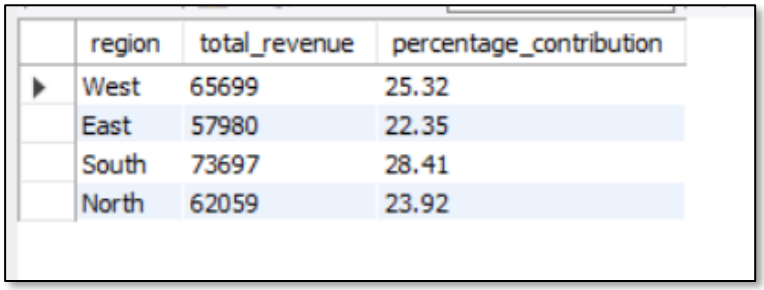


region	round(SUM(order_value))
West	65699
East	57980
South	73697
North	62059

 # Find Revenue Contribution(%) by Each Region

```
SELECT region, round(SUM(order_value)) AS total_revenue,
      ROUND(SUM(order_value) * 100.0 / (SELECT SUM(order_value) FROM Orders), 2) AS
percentage_contribution
FROM Orders
GROUP BY region;
```

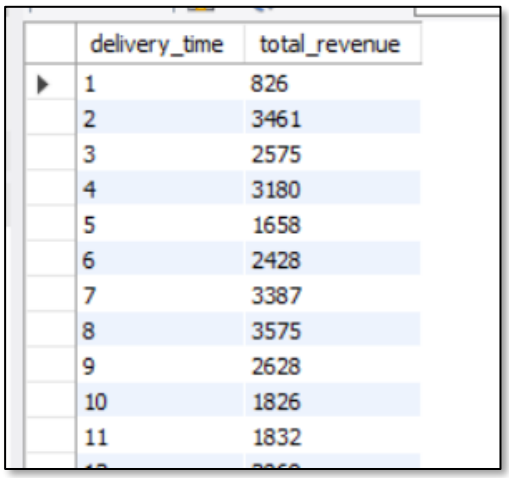
select * from total_revenue;



region	total_revenue	percentage_contribution
West	65699	25.32
East	57980	22.35
South	73697	28.41
North	62059	23.92

 # Find Total Revenue vs. Delivery Time

```
SELECT delivery_time, round(SUM(order_value)) AS total_revenue
FROM Orders
WHERE delivery_time IS NOT NULL
GROUP BY delivery_time
ORDER BY delivery_time;
```



delivery_time	total_revenue
1	826
2	3461
3	2575
4	3180
5	1658
6	2428
7	3387
8	3575
9	2628
10	1826
11	1832

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