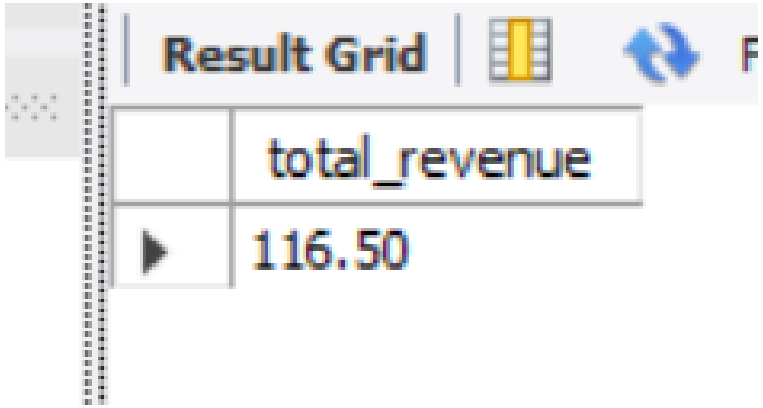

RESTAURANT ORDER ANALYSIS
ASHEL
TOTAL ORDERS
ASHEL
TOTAL ORDERS
TOTAL REVENUY
329 3.90
TOP-SELLING ITEMS
TOTAL ORDERS
TOP-REVENTE
2.98
TOTAL REVENTY
TOTAL ORDERS
TOP-SELLING ITEMS
COP-SELLING ITEMS
229.90
4:6.50

1.Calculate the total revenue generated from all orders.

SELECT SUM(total_price) AS total_revenue

FROM orders;



2. Count the total number of orders placed?

SELECT COUNT(order_id) AS total_orders FROM orders;

	total_orders
▶	4

3.Retrieve all orders with their respective order details using INNER JOIN?

SELECT o.order_id, o.customer_id, o.order_date, od.menu_item, od.quantity, od.price FROM orders oINNER JOIN order_details od ON o.order_id = od.order_id;

order_id	customer_id	order_date	menu_item	quantity	price
1	101	2025-03-01	Burger	2	12.75
1	101	2025-03-01	Fries	1	5.00
2	102	2025-03-01	Pizza	1	18.75
3	103	2025-03-02	Pasta	2	20.00
4	101	2025-03-03	Salad	1	10.00
4	101	2025-03-03	Steak	1	22.25

.4. Retrieve all orders, including those without order details, using LEFT JOIN?

SELECT o.order_id, o.customer_id, o.order_date, od.menu_item, od.quantity, od.price FROM orders oLEFT JOIN order_details od ON o.order_id = od.order_id;

Result Grid | Filter Rows: | Export: | Wrap Cel

order_id	customer_id	order_date	menu_item	quantity	price
1	101	2025-03-01	Burger	2	12.75
1	101	2025-03-01	Fries	1	5.00
2	102	2025-03-01	Pizza	1	18.75
3	103	2025-03-02	Pasta	2	20.00
4	101	2025-03-03	Salad	1	10.00
4	101	2025-03-03	Steak	1	22.25

5. Retrieve all order details, including those without corresponding orders, using RIGHT JOIN.

SELECT o.order_id, o.customer_id, o.order_date, od.menu_item, od.quantity, od.price FROM orders oRIGHT JOIN order_details od ON o.order_id = od.order_id;

Result Grid | Filter Rows: | Export: | Wrap

order_id	customer_id	order_date	menu_item	quantity	price
1	101	2025-03-01	Burger	2	12.75
1	101	2025-03-01	Fries	1	5.00
2	102	2025-03-01	Pizza	1	18.75
3	103	2025-03-02	Pasta	2	20.00
4	101	2025-03-03	Salad	1	10.00
4	101	2025-03-03	Steak	1	22.25

6.Calculate the total quantity of each menu item sold.

```
SELECT menu_item,
SUM(quantity) AS
total_quantity_sold FROM
order_details GROUP BY
menu_item;
```

menu_item	total_quantity_sold
Burger	2
Fries	1
Pizza	1
Pasta	2
Salad	1
Steak	1

7. Identify the top1 customers who have spent the most

```
SELECT customer_id,
SUM(total_price) AS
total_spent FROM orders
GROUP BY customer_id
ORDER BY total_spent DESC
LIMIT 1;
```

customer_id	total_spent
101	57.75

8.Count the number of orders per customer.

SELECT customer_id, COUNT(order_id) AS orders_per_customer FROM orders GROUP BY customer_id;

customer_id	orders_per_customer
101	2
102	1
103	1

9.find the total sum of price ?

select sum(total_price) from orders;

	sum(total_price)
▶	116.50

10.Find the date with the highest total sales.

```
SELECT order_date,
SUM(total_price) AS
total_sales FROM orders
GROUP BY order_date
ORDER BY total_sales DESC
LIMIT 1;
```

	order_date	total_sales
▶	2025-03-01	44.25

11. Find the month with the highest revenue

```
SELECT DATE_FORMAT(order_date, '%Y-%m') AS month, SUM(total_price) AS revenueFROM ordersGROUP BY monthORDER BY revenue DESCLIMIT 1;
```

	month	revenue
▶	2025-03	116.50

12.Find the total revenue generated each day

```
SELECT order_date,
SUM(total_price) AS
daily_revenueFROM ordersGROUP
BY order_dateORDER BY
order_date;
```

	order_date	daily_revenue
▶	2025-03-01	44.25
	2025-03-02	40.00
	2025-03-03	32.25

13.Find customers who placed their first order in the last 30 days

```
SELECT customer_id,
MIN(order_date) AS
first_order_date FROM orders
GROUP BY customer_id HAVING
first_order_date >= CURDATE() -
INTERVAL 30 DAY;
```

customer_id	first_order_date
101	2025-03-01
102	2025-03-01
103	2025-03-02

14. Retrieve the top 3 busiest order hours

```
SELECT HOUR(order_time) AS order_hour, COUNT(order_id) AS total_orders FROM orders GROUP BY order_hour ORDER BY total_orders DESC LIMIT 3;
```

order_hour	total_orders
12	1
13	1
19	1

15.Find the most expensive order food ?

```
SELECT * FROM orders
ORDER BY total_price DESC
LIMIT 1;
```

order_id	customer_id	order_date	order_time	total_price
3	103	2025-03-02	19:45:00	40.00
NULL	NULL	NULL	NULL	NULL

16.List all foreign keys in the database

```
SELECT TABLE_NAME, COLUMN_NAME,
CONSTRAINT_NAME,
REFERENCED_TABLE_NAME,
REFERENCED_COLUMN_NAME FROM
INFORMATION_SCHEMA.KEY_COLUMN
_USAGE WHERE
REFERENCED_TABLE_SCHEMA =
'RestaurantDB';
```

TABLE_NAME	COLUMN_NAME	CONSTRAINT_NAME	REFERENCED_TABLE_NAME	REFERENCED_COLUMN_NAME
order_details	order_id	order_details_ibfk_1	orders	order_id

17. Find all orders that have corresponding order details (Primary and Foreign Key Relation)

```
SELECT o.order_id, o.order_date,
o.total_price, od.menu_item,
od.quantity, od.priceFROM orders
oJOIN order_details od ON
o.order_id = od.order_id;
```

order_id	order_date	total_price	menu_item	quantity	price
1	2025-03-01	25.50	Fries	1	5.00
2	2025-03-01	18.75	Pizza	1	18.75
3	2025-03-02	40.00	Pasta	2	20.00
4	2025-03-03	32.25	Salad	1	10.00
4	2025-03-03	32.25	Steak	1	22.25

Result 8

18.Count how many orders have at least one order detail

SELECT COUNT(DISTINCT order_id) AS valid_orders FROM order_details;

	valid_orders
▶	4

19.Identify orders where the total price does not match the sum of item prices (Data Integrity Check)

```
SELECT o.order_id, o.total_price, SUM(od.price * od.quantity) AS calculated_price FROM orders oJOIN order_details od ON o.order_id = od.order_idGROUP BY o.order_id, o.total_priceHAVING o.total_price <> calculated_price;
```

order_id	total_price	calculated_price
1	25.50	30.50

20.Find the most expensive order based on total price (Primary Key Usage)

SELECT * FROM orders WHERE total_price = (SELECT MAX(total_price) FROM orders);

order_id	customer_id	order_date	order_time	total_price
3	103	2025-03-02	19:45:00	40.00
NULL	NULL	NULL	NULL	NULL

21.Retrieve the total revenue grouped by each customer ID

```
SELECT customer_id,
SUM(total_price) AS total_spent
FROM orders GROUP BY customer_id
ORDER BY total_spent DESC;
```

customer_id	total_spent
101	57.75
103	40.00
102	18.75

22.Retrieve all orders placed on a specific date.

SELECT * FROM orders WHERE order_date = '2025-03-01';

Result Grid | Filter Rows: | Edit:

order_id	customer_i	order_date	order_time	total_price
1	101	2025-03-01	12:30:00	25.50
2	102	2025-03-01	13:15:00	18.75
NULL	NULL	NULL	NULL	NULL

23.Retrieve the order details of a specific order ID (e.g., 101).

SELECT * FROM order_details
WHERE order_id = 101;

	detail_id	order_id	menu_item	quantity	price
*	NULL	NULL	NULL	NULL	NULL

24.Identify orders that contain a specific menu item (e.g., 'Burger').

Identify orders that contain a specific menu item (e.g., 'Burger').

order_id
1

Find the total amount spent by each customer

```
SELECT customer_id,
SUM(total_price) AS total_spent
FROM orders GROUP BY
customer_id;
```

customer_id	total_spent
101	57.75
102	18.75
103	40.00

26.Retrieve order details of a specific menu item efficiently

SELECT * FROM order_details WHERE menu_item = 'Pizza';

Result Grid | Filter Rows: | Edit

detail_id	order_id	menu_item	quantity	price
3	2	Pizza	1	18.75
NULL	NULL	NULL	NULL	NULL

27Get the latest order placed by each customer

```
SELECT o1.*
FROM orders o1
WHERE order_date = (
    SELECT MAX(order_date)
    FROM orders o2
    WHERE o1.customer_id = o2.customer_id
);
```

order_id	customer_id	order_date	order_time	total_price
2	102	2025-03-01	13:15:00	18.75
3	103	2025-03-02	19:45:00	40.00
4	101	2025-03-03	14:20:00	32.25
NULL	NULL	NULL	NULL	NULL

28.Retrieve all orders along with their corresponding order details

```
SELECT o.order_id, o.customer_id, o.order_date, od.menu_item, od.quantity, od.price

FROM orders o

JOIN order_details od ON o.order_id = od.order_id;
```

order_id	customer_id	order_date	menu_item	quantity	price
1	101	2025-03-01	Burger	2	12.75
1	101	2025-03-01	Fries	1	5.00
2	102	2025-03-01	Pizza	1	18.75
3	103	2025-03-02	Pasta	2	20.00
4	101	2025-03-03	Salad	1	10.00

29.Find the total revenue per customer

```
SELECT o.customer_id,
SUM(o.total_price) AS total_spent
FROM orders o
GROUP BY o.customer_id;
```

customer_id	total_spent
101	57.75
102	18.75
103	40.00

30.Get a list of all menu items ordered along with their order date

SELECT o.order_date, od.menu_item, od.quantityFROM orders oJOIN order_details od ON o.order_id = od.order_id;

order_date	menu_item	quantity
2025-03-01	Burger	2
2025-03-01	Fries	1
2025-03-01	Pizza	1
2025-03-02	Pasta	2
2025-03-03	Salad	1

31.Get the most frequently ordered menu item

```
SELECT menu_item, SUM(quantity) AS total_quantityFROM order_detailsGROUP BY menu_itemORDER BY total_quantity DESCLIMIT 1;
```

Result Grid | Filter Rows:

menu_item	total_quantity
Burger	2

32.Get the order with the highest total price

SELECT * FROM orders ORDER BY total_price DESC LIMIT 1;

order_id	customer_id	order_date	order_time	total_price
3	103	2025-03-02	19:45:00	40.00
NULL	NULL	NULL	NULL	NULL

33.Total order value per each order

```
SELECT order_id, SUM(quantity * price)
AS total_order_valueFROM
order_detailsGROUP BY order_id;
```

order_id	total_order_value
1	30.50
2	18.75
3	40.00
4	32.25

34.Retrieve the total revenue per month

```
SELECT YEAR(order_date) AS year,
MONTH(order_date) AS month,
    SUM(total_price) AS monthly_revenue
FROM orders
GROUP BY YEAR(order_date),
MONTH(order_date)
ORDER BY year DESC, month DESC;
```

Result Grid | Filter Rows:

year	month	monthly_revenue
2025	3	116.50

35.Find customers who placed consecutive orders on two consecutive days

```
SELECT customer_id, order_date,
    LAG(order_date, 1) OVER (PARTITION BY customer_id ORDER BY order_date) AS previous_order
FROM orders;
```

customer_id	order_date	previous_order
101	2025-03-01	NULL
101	2025-03-03	2025-03-01
102	2025-03-01	NULL
103	2025-03-02	NULL

36.Get the cumulative revenue per day

```
SELECT order_date,
    SUM(total_price) OVER (ORDER BY order_date) AS cumulative_revenue
FROM orders;
```

order_date	cumulative_revenue
2025-03-01	44.25
2025-03-01	44.25
2025-03-02	84.25
2025-03-03	116.50

37.Find the moving average of daily sales over the last 7 days

```
SELECT order_date,
    SUM(total_price) OVER (ORDER BY order_date ROWS BETWEEN 6 PRECEDING AND CURRENT ROW) AS moving_avg_sales
FROM orders;
```

order_date	moving_avg_sales
2025-03-01	25.50
2025-03-01	44.25
2025-03-02	84.25
2025-03-03	116.50

38.Retrieve the second highest order total

```
SELECT DISTINCT total_price
FROM orders
ORDER BY total_price DESC
LIMIT 1 OFFSET 1;
```

	total_price
▶	32.25

39.Rank customers based on their total spending

```
SELECT customer_id, SUM(total_price) AS total_spent,       RANK() OVER (ORDER BY SUM(total_price) DESC) AS spending_rankFROM ordersGROUP BY customer_id;
```

customer_id	total_spent	spending_rank
101	57.75	1
103	40.00	2
102	18.75	3

40.Find customers who have placed at least 2 orders

```
SELECT customer_id, COUNT(order_id)
AS order_countFROM ordersGROUP BY
customer_idHAVING COUNT(order_id)
>= 2;
```

	customer_id	order_count
▶	101	2

41.Retrieve orders with the highest quantity of a single menu item

```
SELECT order_id, menu_item,
MAX(quantity) AS highest_quantity
FROM order_details
GROUP BY order_id, menu_item
ORDER BY highest_quantity DESC
LIMIT 1;
```

	order_id	menu_item	highest_quantity
▶	1	Burger	2

42.Find the total revenue generated by each day of the week

```
SELECT DAYNAME(order_date) AS day_of_week, SUM(total_price) AS total_revenue
FROM orders
GROUP BY DAYNAME(order_date)
ORDER BY total_revenue DESC;
```

day_of_week	total_revenue
Saturday	44.25
Sunday	40.00
Monday	32.25

43.Find the most popular menu item for each customer

```
SELECT customer_id, menu_item,
SUM(quantity) AS total_ordered
FROM orders o
JOIN order_details od ON o.order_id =
od.order_id
GROUP BY customer_id, menu_item
ORDER BY customer_id, total_ordered
DESC;
```

customer_id	menu_item	total_ordered
101	Burger	2
101	Fries	1
101	Salad	1
101	Steak	1
102	Pizza	1

Result 28

44.Retrieve customers who have spent more than the average order value

```
SELECT customer_id, SUM(total_price)
AS total_spent
FROM orders
GROUP BY customer_id
HAVING SUM(total_price) > (SELECT
AVG(total_price) FROM orders);
```

customer_id	total_spent
101	57.75
103	40.00

45.Retrieve customers who have ordered at least 2 different menu items

```
SELECT order_idFROM order_detailsGROUP BY order_idHAVING COUNT(DISTINCT menu_item) >= 2;
```

order_id
1
4

46.Find theTotal spent the order id

```
SELECT customer_id, total_spent FROM
(    SELECT customer_id,
SUM(total_price) AS total_spent,
RANK() OVER (ORDER BY
SUM(total_price) DESC) AS
spending_rank    FROM orders
GROUP BY customer_id)
ranked_customersWHERE
spending_rank = 2;
```

	customer_id	total_spent
▶	103	40.00

47.Find the percentage contribution of each customer to total revenue

```
SELECT customer_id,
    SUM(total_price) AS customer_revenue,
    (SUM(total_price) * 100) / (SELECT SUM(total_price) FROM orders) AS revenue_percentage
FROM orders
GROUP BY customer_id;
```

customer_id	customer_revenue	revenue_percentage
101	57.75	49.570815
102	18.75	16.094421
103	40.00	34.334764

48.Find customers who placed an order within 30 days of their first order

```
SELECT customer_id, order_id, order_date
FROM orders o1
WHERE EXISTS (
    SELECT 1 FROM orders o2
    WHERE o1.customer_id = o2.customer_id
    AND o2.order_date BETWEEN o1.order_date AND DATE_ADD(o1.order_date, INTERVAL 30 DAY)
);
```

customer_id	order_id	order_date
101	1	2025-03-01
102	2	2025-03-01
103	3	2025-03-02
101	4	2025-03-03
NULL	NULL	NULL

49.Retrieve customers who placed orders on both weekdays and weekends

```
SELECT customer_id
FROM orders
GROUP BY customer_id
HAVING COUNT(DISTINCT CASE WHEN DAYOFWEEK(order_date) IN (1,7) THEN 1 END) > 0
  AND COUNT(DISTINCT CASE WHEN DAYOFWEEK(order_date) NOT IN (1,7) THEN 1 END) > 0;
```

customer_id
101

50.Retrieve the most recent order for each customer

```
SELECT o.*
FROM orders o
WHERE order_date = (
    SELECT MAX(order_date)
    FROM orders o2
    WHERE o.customer_id = o2.customer_id
);
```

Result Grid | Filter Rows: | Edit:

order_id	customer_id	order_date	order_time	total_price
2	102	2025-03-01	13:15:00	18.75
3	103	2025-03-02	19:45:00	40.00
4	101	2025-03-03	14:20:00	32.25
NULL	NULL	NULL	NULL	NULL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8%
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ORDER
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3.2%
3%
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