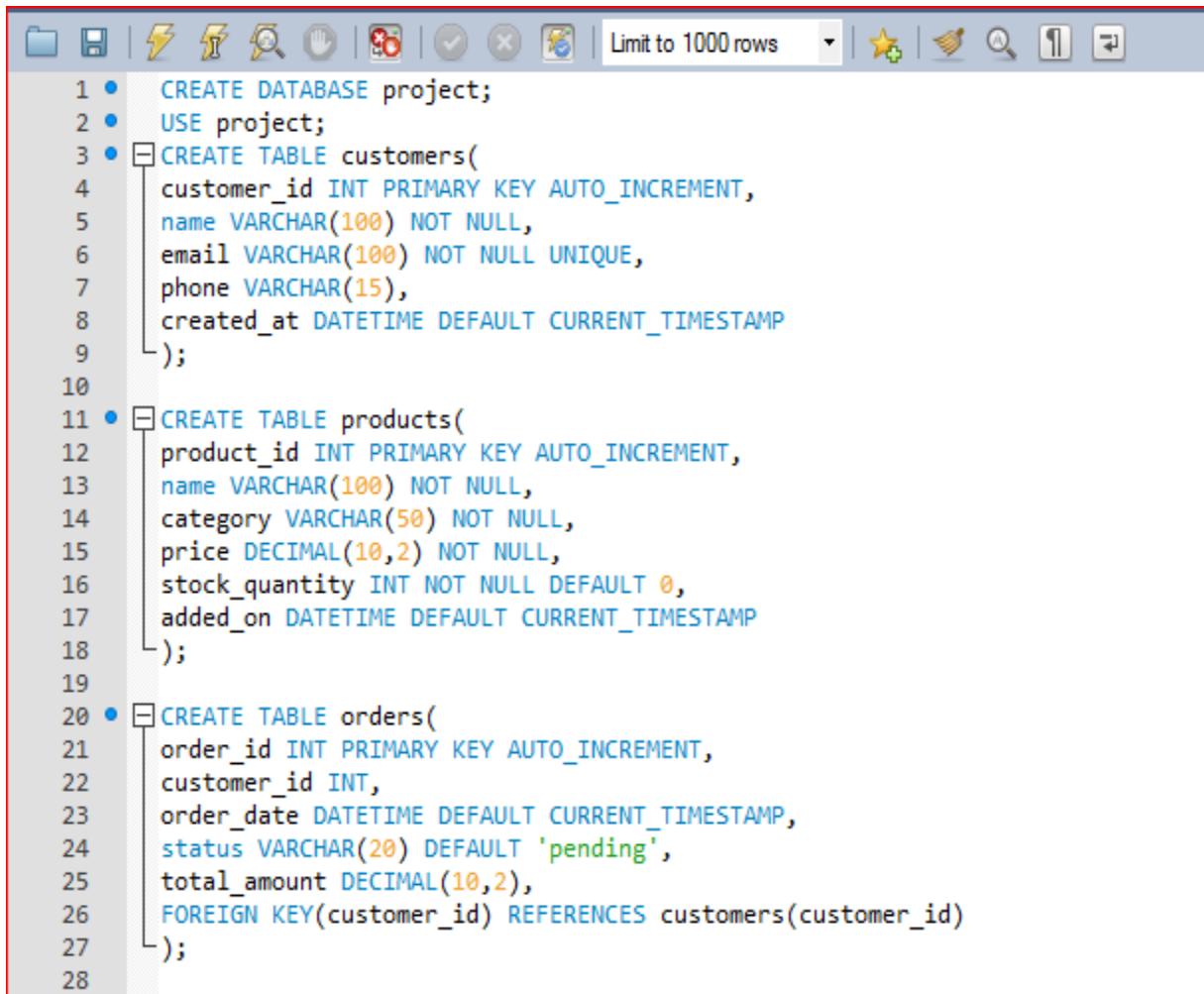


SQL PROJECT

Creating a database and defining database tables (DDLS)

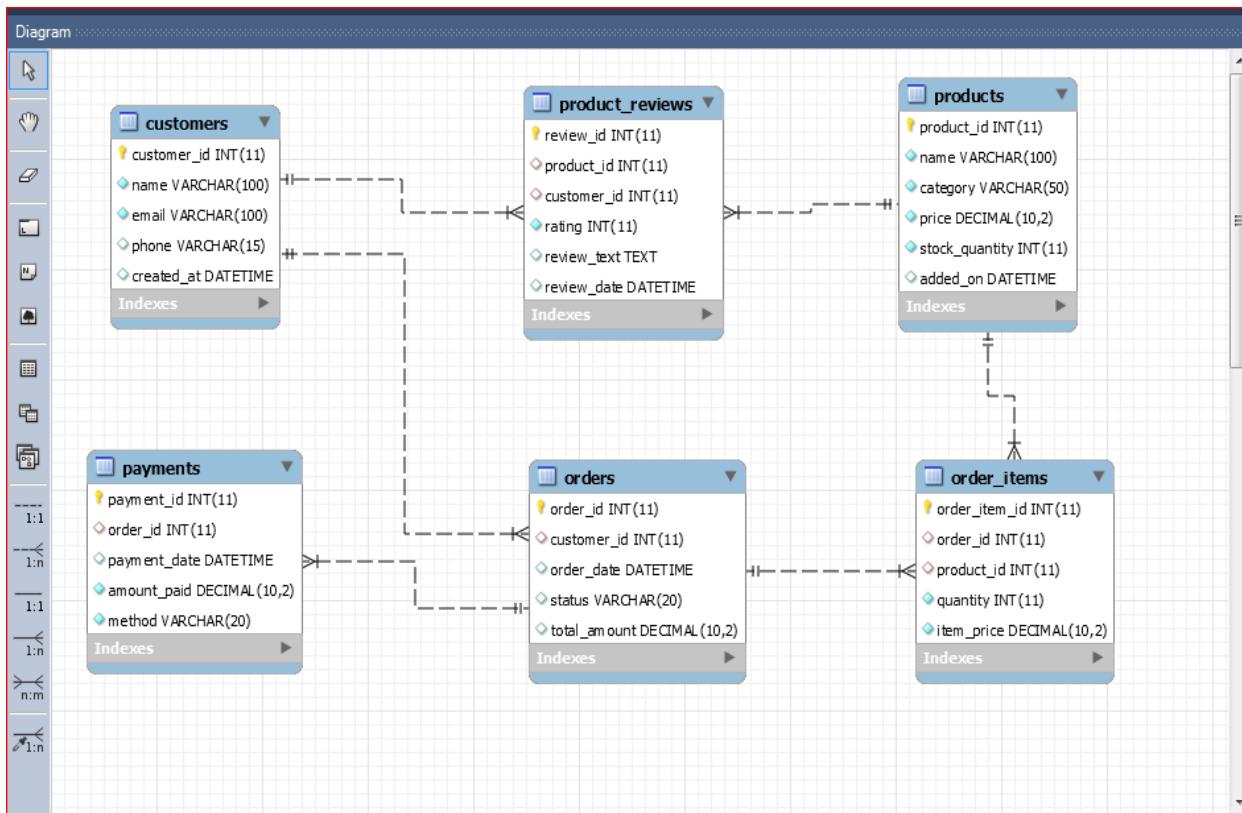


The screenshot shows a SQL development environment with a toolbar at the top containing various icons for file operations, search, and navigation. Below the toolbar is a code editor window displaying the following SQL DDL statements:

```
1 • CREATE DATABASE project;
2 • USE project;
3 • CREATE TABLE customers(
4     customer_id INT PRIMARY KEY AUTO_INCREMENT,
5     name VARCHAR(100) NOT NULL,
6     email VARCHAR(100) NOT NULL UNIQUE,
7     phone VARCHAR(15),
8     created_at DATETIME DEFAULT CURRENT_TIMESTAMP
9 );
10
11 • CREATE TABLE products(
12     product_id INT PRIMARY KEY AUTO_INCREMENT,
13     name VARCHAR(100) NOT NULL,
14     category VARCHAR(50) NOT NULL,
15     price DECIMAL(10,2) NOT NULL,
16     stock_quantity INT NOT NULL DEFAULT 0,
17     added_on DATETIME DEFAULT CURRENT_TIMESTAMP
18 );
19
20 • CREATE TABLE orders(
21     order_id INT PRIMARY KEY AUTO_INCREMENT,
22     customer_id INT,
23     order_date DATETIME DEFAULT CURRENT_TIMESTAMP,
24     status VARCHAR(20) DEFAULT 'pending',
25     total_amount DECIMAL(10,2),
26     FOREIGN KEY(customer_id) REFERENCES customers(customer_id)
27 );
28
```

```
28
29 • └─ CREATE TABLE order_items(
30     order_item_id INT PRIMARY KEY AUTO_INCREMENT,
31     order_id INT,
32     product_id INT,
33     quantity INT NOT NULL CHECK(quantity > 0),
34     item_price DECIMAL(10,2) NOT NULL,
35     FOREIGN KEY(order_id) REFERENCES orders(order_id),
36     FOREIGN KEY(product_id) REFERENCES products(product_id)
37 );
38
39 • └─ CREATE TABLE payments(
40     payment_id INT PRIMARY KEY AUTO_INCREMENT,
41     order_id INT,
42     payment_date DATETIME DEFAULT CURRENT_TIMESTAMP,
43     amount_paid DECIMAL(10,2) NOT NULL CHECK(amount_paid > 0),
44     method VARCHAR(20) NOT NULL,
45     FOREIGN KEY(order_id) REFERENCES orders(order_id)
46 );
47
48 • └─ CREATE TABLE product_reviews(
49     review_id INT PRIMARY KEY AUTO_INCREMENT,
50     product_id INT,
51     customer_id INT,
52     rating INT NOT NULL,
53     review_text TEXT,
54     review_date DATETIME DEFAULT CURRENT_TIMESTAMP,
55     FOREIGN KEY(product_id) REFERENCES products(product_id),
56     FOREIGN KEY(customer_id) REFERENCES customers(customer_id)
57 );
58
```

EER Model Diagram



Level 1: Basics

1. Retrieve customer names and emails for email marketing

Query -

```
SELECT name, email
```

```
FROM customers;
```

Output -

	name	email
	Thomas Owens	user1@example.com
	Charles Grant	user2@example.com
	Kaitlin Richards	user3@example.com
	Christina Williams	user4@example.com
	David Allen	user5@example.com
	Mark Duke	user6@example.com
	Briana Wright	user7@example.com
	John Brvan	user8@example.com
	Jason Thomoson	user9@example.com
	Shawn Hill	user10@example.com
	Walter Jenkins	user11@example.com
	Marv Kniacht	user12@example.com
	Leslie Wilson	user13@example.com
	Deborah Arias	user14@example.com
	Austin Flores	user15@example.com
	Amv Landrv	user16@example.com
	Randv Moonev	user17@example.com
	Jeffrey Brav	user18@example.com
	Amanda Bright	user19@example.com
	Megan Lee	user20@example.com
	Jessica Zamora	user21@example.com
	Peter Phillips	user22@example.com
	Kathrvn Mathews	user23@example.com
	Brandy Wright	user24@example.com
	Cindv Hart	user25@example.com
	Victoria Hall	user26@example.com
	Adrienne Green	user27@example.com
	Joseph Stuart	user28@example.com
	Kara Zavala	user29@example.com
	Victoria Acevedo	user30@example.com

2 - View complete product catalog with all available details.

Query -

```
SELECT * FROM products;
```

Output -

	product_id	name	category	price	stock_quantity	added_on
1	Plant No	Home	639.43	152	2024-01-30 06:30:53	
2	Population Social	Clothing	4813.68	84	2025-05-30 10:02:50	
3	Available Answer	Electronics	2529.51	101	2025-04-13 01:11:46	
4	Anv Question	Clothing	4759.28	179	2025-06-03 13:34:03	
5	Natural Network	Toys	4722.66	75	2023-11-06 00:47:37	
6	If Whatever	Electronics	177.40	64	2024-12-19 10:37:14	
7	Response Indeed	Clothing	4897.36	36	2025-03-29 02:43:08	
8	Everv Amount	Home	4173.60	156	2025-04-30 03:11:10	
9	Common Studv	Toys	985.19	171	2023-07-20 13:06:42	
10	Development System	Electronics	4801.78	153	2025-03-12 08:22:57	
11	Build Her	Books	1852.64	150	2024-09-08 01:09:15	
12	Action Ask	Electronics	4017.01	19	2025-02-14 03:38:06	
13	Full West	Books	2112.33	172	2023-09-15 03:13:38	
14	Listen Development	Home	296.17	132	2024-10-12 11:49:26	
15	Place Low	Electronics	723.97	46	2023-07-05 14:36:07	
16	Special Fact	Toys	1094.18	15	2025-03-17 10:42:40	
17	Evervthing Plant	Books	2496.68	120	2023-10-08 20:11:55	
18	Some Them	Toys	3673.86	110	2024-07-25 00:33:53	
19	Build High	Clothing	4707.14	47	2023-09-01 02:50:01	
20	Real Source	Books	4398.66	197	2025-02-08 10:28:27	
21	Bed Includino	Clothing	3845.31	92	2025-01-21 11:52:40	
22	Move Small	Books	4168.08	22	2023-11-12 18:26:30	
23	Life Series	Clothing	2208.99	136	2024-03-09 09:19:13	
24	Assume Serve	Home	3437.81	10	2024-07-10 05:05:17	
25	South Free	Clothing	3543.58	44	2023-07-25 04:13:43	
26	Movement Future	Electronics	3502.62	79	2024-01-23 08:39:07	
27	Answer But	Home	1016.68	90	2025-04-06 21:54:11	
28	East Foot	Toys	2414.93	128	2025-05-11 16:02:29	
29	Drop Remember	Electronics	4160.45	89	2023-12-15 12:31:11	
30	Future Sort	Home	3043.67	100	2025-05-17 06:55:28	
31	Series Page	Electronics	2070.37	83	2024-04-01 00:24:06	
32	Front Wh...	Clothing	2205.14	167	2022-07-07 00:59:39	

3. List all unique product categories.

Query -

```
SELECT DISTINCT name FROM products;
```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	name			
	Plant No			
	Population Social			
	Available Answer			
	Anv Question			
	Natural Network			
	If Whatever			
	Response Indeed			
	Everv Amount			
	Common Studv			
	Development System			
	Build Her			
	Action Ask			
	Full West			
	Listen Development			
	Place Low			
	Soocial Fact			
	Evervthing Plant			
	Some Them			
	Build High			
	Real Source			
	Bed Indudina			
	Move Small			
	Life Series			
	Assume Serve			
	South Free			
	Movement Future			
	Answer But			
	East Foot			
	Droo Remember			
	Future Sort			
	Series Page			

	Factor Where
	Involve Officer
	Desoite Win
	Fire Often
	Television Stock
	Between Up
	Study Total
	Data Add
	Toward Minute
	Serious Recoanize
	Weight Enter
	Least Green
	Actually Term
	Suffer We
	Aoe Treatment
	Southern Thina
	Group But
	Rest Something
	Stock Article

4. Show all products priced above ₹1,000.

Query -

```
SELECT name, price
```

```
FROM products
```

```
WHERE price >= 1000
```

```
ORDER BY price;
```

Output -

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	name	price
	Answer But	1016.68
	Special Fact	1094.18
	Desopite Win	1340.34
	Least Green	1398.26
	Between Up	1429.45
	Build Her	1852.64
	Series Paoe	2070.37
	Full West	2112.33
	Life Series	2208.99
	Factor Where	2295.14
	East Foot	2414.93
	Evervhina Pl...	2496.68
	Available An...	2529.51
	Future Sort	3043.67
	Rest Something	3077.82
	Assume Serve	3437.81
	Movement F...	3502.62
	South Free	3543.58
	Suffer We	3657.43
	Some Them	3673.86

5. Display products within a mid-range price bracket (₹2,000 to ₹5,000).

Query -

```
select * from products
where price >= 2000 and price <= 5000
order by price ASC;
```

Output -

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

	product_id	name	category	price	stock_quantity	added_on
	31	Series Paoe	Electronics	2070.37	83	2024-04-01 00:24:06
	13	Full West	Books	2112.33	172	2023-09-15 03:13:38
	23	Life Series	Clothing	2208.99	136	2024-03-09 09:19:13
	32	Factor Where	Clothing	2295.14	167	2023-07-07 00:59:39

	product_id	name	category	price	stock_quantity	added_on
	28	East Foot	Toys	2414.93	128	2025-05-11 16:02:29
	17	Everything Plant	Books	2496.68	120	2023-10-08 20:11:55
	3	Available Answer	Electronics	2529.51	101	2025-04-13 01:11:46
	30	Future Sort	Home	3043.67	100	2025-05-17 06:55:28
	49	Rest Something	Books	3077.82	181	2023-08-09 03:42:42
	24	Assume Serve	Home	3437.81	10	2024-07-10 05:05:17
	26	Movement Future	Electronics	3502.62	79	2024-01-23 08:39:07
	25	South Free	Clothing	3543.58	44	2023-07-25 04:13:43
	45	Suffer We	Electronics	3657.43	113	2024-07-25 12:40:57
	18	Some Them	Toys	3673.86	110	2024-07-25 00:33:53
	46	Ace Treatment	Home	3728.83	160	2023-12-01 10:51:52
	21	Bed Indulging	Clothing	3845.31	92	2025-01-21 11:52:40
	42	Weight Enter	Clothing	3875.18	60	2024-01-26 08:21:55
	12	Action Ask	Electronics	4017.01	19	2025-02-14 03:38:06
	39	Data Add	Books	4063.38	62	2025-05-26 23:39:16
	29	Drop Remember	Electronics	4160.45	89	2023-12-15 12:31:11
	22	Move Small	Books	4168.08	22	2023-11-12 18:26:30
	8	Every Amount	Home	4173.60	156	2025-04-30 03:11:10
	48	Group But	Clothing	4180.23	141	2023-11-29 01:38:12
	33	Involve Officer	Clothing	4244.09	112	2024-03-22 11:36:17
	20	Real Source	Books	4398.66	197	2025-02-08 10:28:27
	38	Study Total	Toys	4413.68	31	2023-11-08 08:25:07
	41	Serious Recognize	Electronics	4523.10	112	2023-08-20 06:16:55
	19	Build High	Clothing	4707.14	47	2023-09-01 02:50:01
	5	Natural Network	Toys	4722.66	75	2023-11-06 00:47:37
	35	Fire Often	Electronics	4734.89	198	2023-10-22 04:15:51
	4	Anv Question	Clothing	4759.28	179	2025-06-03 13:34:03
	10	Development Sv...	Electronics	4801.78	153	2025-03-12 08:22:57
	2	Population Social	Clothing	4813.68	84	2025-05-30 10:02:50
	7	Response Indeed	Clothing	4897.36	36	2025-03-29 02:43:08
	NULL	NULL	NULL	NULL	NULL	NULL

6. Fetch data for specific customer IDs (e.g., from loyalty program list).

Query -

--Assuming we have loyalty list with customer_id (1,5,8,13,18).

```
select * from customers
```

```
where customer_id in (1,5,8,13,18);
```

Output -

The screenshot shows a MySQL Workbench interface with a result grid titled 'Result Grid'. The grid displays data from a table with columns: customer_id, name, email, phone, and created_at. The data includes rows for Thomas Owens, David Allen, John Brvan, Leslie Wilson, and Jeffrey Brav. The 'customer_id' column has values 1, 5, 8, 13, and 18 respectively. The 'name' column contains their names. The 'email' column shows example emails like user1@example.com. The 'phone' column contains various phone numbers. The 'created_at' column shows creation dates and times.

	customer_id	name	email	phone	created_at
	1	Thomas Owens	user1@example.com	142-479-1945	2024-10-14 16:01:12
	5	David Allen	user5@example.com	(751)456-8289x1	2023-10-29 02:43:00
	8	John Brvan	user8@example.com	045.568.0798x27	2025-02-15 17:57:04
	13	Leslie Wilson	user13@example.com	+1-256-261-1984	2024-06-06 20:12:35
	18	Jeffrey Brav	user18@example.com	164.962.0222x92	2024-07-02 19:51:55
	HULL	HULL	HULL	HULL	HULL

7. Identify customers whose names start with the letter 'A',

Query -

```
select name from customers
```

```
where name like 'A%' ;
```

Output -

The screenshot shows a MySQL Workbench interface with a result grid titled 'Result Grid'. The grid displays data from a table with a single column 'name'. The data includes Austin Flores, Amv Landrv, Amanda Bright, and Adrienne Green. All names start with the letter 'A'.

	name
	Austin Flores
	Amv Landrv
	Amanda Bright
	Adrienne Green

8. List electronics products priced under ₹3,000.

Query -

```
SELECT * FROM products
```

```
WHERE category = 'Electronics' and price < 3000;
```

Output -

	product_id	name	category	price	stock_quantity	added_on
	3	Available Answer	Electronics	2529.51	101	2025-04-13 01:11:46
	6	If Whatever	Electronics	177.40	64	2024-12-19 10:37:14
	15	Place Low	Electronics	723.97	46	2023-07-05 14:36:07
	31	Series Paoe	Electronics	2070.37	83	2024-04-01 00:24:06
	34	Desoite Win	Electronics	1340.34	64	2024-11-27 06:55:45
	44	Actually Term	Electronics	396.11	85	2023-11-02 13:09:20
	47	Southern Thina	Electronics	512.46	40	2024-02-28 17:57:38
	NULL	NULL	NULL	NULL	NULL	NULL

9. Display product names and prices in descending order of price.

Query -

```
SELECT name,price
```

```
FROM products
```

```
ORDER BY price DESC;
```

Output -

	name	price
	Response Indeed	4897.36
	Population Social	4813.68
	Development System	4801.78
	Anv Question	4759.28
	Fire Often	4734.89
	Natural Network	4722.66
	Build High	4707.14
	Serious Recoanize	4523.10

	name	price
	Between Up	1429.45
	Least Green	1398.26
	Desoite Win	1340.34
	Sopecial Fact	1094.18
	Answer But	1016.68
	Common Studv	985.19
	Toward Minute	857.85
	Stock Article	834.75
	Place Low	723.97
	Plant No	639.43
	Southern Thina	512.46
	Television Stock	421.73
	Actually Term	396.11
	Listen Development	296.17
	If Whatever	177.40

10. Display product names and prices, sorted by price and then by name.

Query -

```
SELECT name,price  
FROM products  
ORDER BY price DESC, name;
```

Output -

	name	price
	Response Indeed	4897.36
	Population Social	4813.68
	Development System	4801.78
	Anv Question	4759.28
	Fire Often	4734.89
	Natural Network	4722.66
	Build High	4707.14
	Serious Recognize	4523.10
	Study Total	4413.68
	Real Source	4398.66
	Involve Officer	4244.09
	Group But	4180.23
	Everv Amount	4173.60
	Move Small	4168.08
	Droo Remember	4160.45
	Data Add	4063.38
	Action Ask	4017.01
	Weight Enter	3875.18
	Bed Includino	3845.31
	Aoe Treatment	3728.83
	Some Them	3673.86
	Suffer We	3657.43
	South Free	3543.58

Level 2: Filtering and Formatting

1. Retrieve orders where customer information is missing (possibly due to data migration or deletion).

Query -

```
SELECT * FROM orders  
WHERE customer_id IS NULL;
```

Output -

Result Grid					Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
	order_id	customer_id	order_date	status	total_amount			
	NULL	NULL	NULL	NULL	NULL			

** no data found in orders table where customers id column has null values.

2. Display customer names and emails using column aliases for front end readability.

Query -

```
SELECT  
    name AS Customer_Name,  
    email AS Customer_Email_ID  
  
FROM customers;
```

Output -

Customer_Name	Customer_Email_ID
Thomas Owens	user1@example.com
Charles Grant	user2@example.com
Kaitlin Richards	user3@example.com
Christina Williams	user4@example.com
David Allen	user5@example.com
Mark Duke	user6@example.com
Briana Wright	user7@example.com
John Brvan	user8@example.com
Jason Thomposon	user9@example.com
Shawn Hill	user10@example.com
Walter Jenkins	user11@example.com
Marv Knight	user12@example.com
Leslie Wilson	user13@example.com

3. Calculate total value per item ordered by multiplying quantity and item price.

Query -

```
SELECT
```

```

order_id,
item_price,
quantity,
(item_price * quantity) AS Total_Value
FROM order_items;

```

Output -

	order_id	item_price	quantity	Total_Value
	1	4707.14	2	9414.28
	2	177.40	3	532.20
	3	985.19	3	2955.57
	3	2208.99	1	2208.99
	4	4734.89	2	9469.78
	5	4707.14	1	4707.14
	5	4897.36	2	9794.72
	6	4897.36	3	14692.08
	6	1429.45	1	1429.45
	6	723.97	1	723.97
	6	4734.89	3	14204.67
	7	3043.67	1	3043.67
	8	4801.78	3	14405.34
	8	4722.66	3	14167.98
	8	2070.37	2	4140.74
	9	4897.36	3	14692.08
	9	396.11	1	396.11
	9	3043.67	3	9131.01
	10	1429.45	3	4288.35
	10	639.43	1	639.43
	10	4897.36	3	14692.08
	10	4722.66	1	4722.66
	11	639.43	3	1918.29
	11	4759.28	3	14277.84
	12	2496.68	2	4993.36
	12	4897.36	1	4897.36
	13	4813.68	2	9627.36
	14	1094.18	3	3282.54
	14	4173.60	3	12520.80
	15	4244.09	2	8488.18

4. Combine customer name and phone number in a single column.

Query -

```

SELECT CONCAT(name, ' ', phone) AS Contact_Info
FROM customers;

```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	
	Contact_Info				
	Thomas Owens , 142-479-1945				
	Charles Grant , 9153947511				
	Kaitlin Richards , 2073473421				
	Christina Williams , 586-605-5061x06				
	David Allen , (751)456-8289x1				
	Mark Duke , (144)957-2811				
	Briana Wright , 223-833-9635				
	John Brvan , 045.568.0798x27				
	Jason Thomson , 1862659420				
	Shawn Hill , (268)113-3152x7				
	Walter Jenkins , 536-329-0817x71				
	Marv Knight , 361-636-3802				
	Leslie Wilson , +1-256-261-1984				
	Deborah Arias , 811-821-2144x97				

5. Extract only the date part from order timestamps for date-wise reporting.

Query -

```
SELECT  
    order_id,  
    DATE(order_date) AS Order_Date  
FROM orders;
```

Output -

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	order_id	Order_Date
1		2025-03-02
2		2024-10-09
3		2025-05-08
4		2024-09-19
5		2025-04-08
6		2024-10-25
7		2024-07-29
8		2024-07-30
9		2025-06-10
10		2025-02-16
11		2025-03-11
12		2025-01-15
13		2025-05-12
14		2024-09-24
15		2024-07-18
16		2024-09-09
17		2024-08-19
18		2024-06-15
19		2024-07-06
20		2024-08-24

6. List products that do not have any stock left.

Query -

```
SELECT * FROM products
```

```
WHERE stock_quantity = 0;
```

Output -

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

	product_id	name	category	price	stock_quantity	added_on
	NULL	NULL	NULL	NULL	NULL	NULL

** No products found which do not have any stocks left.

Level 3: Aggregations

1. Count the total number of orders placed.

Query -

```
SELECT COUNT(order_id) AS total_orders  
FROM orders;
```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	total_orders			
	400			

2. Calculate the total revenue collected from all orders.

Query -

```
SELECT SUM(total_amount) AS total_revenue  
FROM orders;
```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	total_revenue			
	6960973.66			

3. Calculate the average order value.

Query -

```
SELECT ROUND(AVG(total_amount),2) AS Average_order_value  
FROM orders;
```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
Average_order_value	17402.43			

4. Count the number of customers who have placed at least one order.

Query -

```
SELECT COUNT(DISTINCT customer_id) AS Total_customers_with_orders  
FROM orders;
```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
Total_customers_with_orders	30			

5. Find the number of orders placed by each customer.

Query -

```
SELECT  
    customer_id,  
    COUNT(*) AS orders_count  
FROM orders  
GROUP BY customer_id  
ORDER BY customer_id;
```

Output -

Result Grid | Filter Rows: Export: Wrap Cell Content:

	customer_id	orders_count
1	12	
2	17	
3	17	
4	9	
5	14	
6	16	
7	13	
8	10	
9	10	
10	13	
11	9	
12	11	
13	12	
14	15	
15	15	
16	16	
17	17	
18	9	
19	15	
20	17	
21	13	
22	15	
23	9	
24	15	
25	15	
26	6	
27	7	
28	17	
29	20	

5. Find total sales amount made by each customer.

Query -

```

SELECT
    customer_id,
    SUM(total_amount) AS total_sales
FROM orders
GROUP BY customer_id
ORDER BY customer_id;
```

Output -

Result Grid | Filter Rows: Export: Wrap Cell Content:

customer_id	total_sales
1	183747.44
2	284420.07
3	253783.31
4	137562.22
5	262504.19
6	212173.58
7	167960.11
8	164701.78
9	106226.03
10	252722.75
11	173409.01
12	169653.79
13	152727.70
14	360324.18
15	260499.91
16	278469.73
17	262189.71
18	199823.08
19	222256.24
20	229435.29
21	205592.25
22	237879.99
23	167210.99
24	379286.82
25	335100.94
26	112039.80
27	109438.29
28	362584.19
29	435408.89

7. List the number of products sold per category.

Query -

```

SELECT
    P.category,
    SUM(OI.quantity) AS products_sold
FROM products AS P
JOIN order_items AS OI
ON P.product_id = OI.product_id
GROUP BY P.category
ORDER BY P.category;

```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	category	products_sold		
	Books	350		
	Clothing	559		
	Electronics	687		
	Home	443		
	Toys	405		

8. Find the average item price per category.

Query -

```
SELECT
    P.category,
    ROUND(AVG(OI.item_price),2) AS avg_item_price
FROM products AS P
JOIN order_items AS OI
ON P.product_id = OI.product_id
GROUP BY P.category
ORDER BY P.category;
```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	category	avg_item_price		
	Books	3216.39		
	Clothing	3473.17		
	Electronics	2733.93		
	Home	2330.71		
	Toys	2407.63		

9. Show number of orders placed per day.

Query -

```
SELECT
    DATE(order_date) AS order_day,
    COUNT(*) AS orders_count
```

```
FROM orders  
GROUP BY DATE(order_date)  
ORDER BY order_day;
```

Output -

order_day	orders_count
2024-06-15	1
2024-06-18	1
2024-06-19	3
2024-06-20	2
2024-06-21	2
2024-06-23	2
2024-06-24	1
2024-06-25	1
2024-06-30	2
2024-07-03	1
2024-07-04	1
2024-07-05	3
2024-07-06	2
2024-07-08	2
2024-07-09	2
2024-07-12	1
2024-07-14	1
2024-07-16	2
2024-07-18	1
2024-07-20	1
2024-07-21	2
2024-07-23	1
2024-07-24	1
2024-07-25	2
2024-07-26	2
2024-07-27	1
2024-07-29	2
2024-07-30	2
2024-08-02	1

	order_day	orders_count
	2025-05-18	1
	2025-05-20	2
	2025-05-21	1
	2025-05-22	1
	2025-05-23	1
	2025-05-25	1
	2025-05-28	1
	2025-05-30	1
	2025-05-31	1
	2025-06-04	1
	2025-06-05	1
	2025-06-06	5
	2025-06-08	1
	2025-06-09	3
	2025-06-10	2
	2025-06-11	3
	2025-06-13	2

10. List total payments received per payment method.

Query -

```
SELECT
    method,
    SUM(amount_paid) AS total_payments_received
FROM payments
GROUP BY method
ORDER BY total_payments_received DESC;
```

Output -

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	method	total_payments_received		
	Debit Card	1930577.88		
	Credit Card	1754603.10		
	Net Banking	1658383.90		
	UPI	1617408.78		

Level 4: Multi-Table Queries (JOINS)

1. *Retrieve order details along with the customer name (INNER JOIN).*

Query -

```
SELECT  
    C.name,  
    O.order_id,  
    O.order_date,  
    O.status,  
    O.total_amount  
  
FROM orders AS O  
  
INNER JOIN customers AS C  
  
ON O.customer_id = C.customer_id  
  
ORDER BY C.name;
```

Output -

Result Grid | Filter Rows: Export: Wrap Cell Content:

	name	order_id	order_date	status	total_amount
	Adrienne Green	66	2024-06-19 09:41:16	Pending	26176.05
	Adrienne Green	170	2025-04-10 20:35:21	Delivered	18568.69
	Adrienne Green	200	2024-10-14 06:47:13	Delivered	19065.76
	Adrienne Green	293	2024-07-25 10:45:16	Shipped	18184.99
	Adrienne Green	343	2025-04-18 07:00:17	Shipped	20754.96
	Adrienne Green	371	2025-02-07 10:02:47	Cancelled	532.20
	Adrienne Green	387	2024-07-20 11:57:57	Pending	6155.64
	Amanda Bright	8	2024-07-30 22:49:49	Cancelled	32714.06
	Amanda Bright	45	2024-07-21 11:17:43	Pending	27016.65
	Amanda Bright	54	2024-10-15 18:58:22	Shipped	7198.10
	Amanda Bright	137	2025-02-09 17:12:40	Cancelled	5958.51
	Amanda Bright	156	2025-04-22 00:16:44	Delivered	4734.89
	Amanda Bright	167	2025-04-07 13:33:15	Delivered	1537.38
	Amanda Bright	173	2025-06-13 10:58:21	Shipped	6875.62
	Amanda Bright	174	2024-09-30 11:32:38	Cancelled	35676.00
	Amanda Bright	190	2025-03-23 21:57:30	Shipped	4168.08
	Amanda Bright	224	2024-12-12 16:18:37	Pending	9000.15
	Amanda Bright	254	2025-01-25 19:44:44	Shipped	9701.84
	Amanda Bright	324	2025-03-03 01:47:33	Pending	19188.81
	Amanda Bright	350	2024-11-19 12:57:46	Delivered	11472.47
	Amanda Bright	373	2024-09-11 14:32:08	Delivered	29373.72
	Amanda Bright	388	2025-03-08 00:36:03	Pending	17639.96
	Amv Landrv	28	2024-10-19 18:28:48	Delivered	639.43
	Amv Landrv	51	2024-07-16 04:49:33	Shipped	24811.55
	Amv Landrv	57	2025-04-16 09:03:36	Cancelled	2680.68
	Amv Landrv	64	2024-12-20 10:48:53	Pending	24892.90

2. Get list of products that have been sold (INNER JOIN with order_items).

Query -.

SELECT DISTINCT

P.product_id,

P.name,

P.category

FROM products AS P

INNER JOIN order_items AS OI

ON P.product_id = OI.product_id;

Output -

Result Grid | Filter Rows: Export: Wrap Cell Content:

	product_id	name	category
	1	Plant No	Home
	2	Population Social	Clothing
	3	Available Answer	Electronics
	4	Anv Question	Clothing
	5	Natural Network	Toys
	6	If Whatever	Electronics
	7	Response Indeed	Clothing
	8	Every Amount	Home
	9	Common Studv	Toys
	10	Development System	Electronics
	11	Build Her	Books
	12	Action Ask	Electronics
	13	Full West	Books
	14	Listen Development	Home
	15	Place Low	Electronics
	16	Sopecial Fact	Toys
	17	Everythino Plant	Books
	18	Some Them	Toys
	19	Build High	Clothing
	20	Real Source	Books
	21	Bed Includina	Clothing
	22	Move Small	Books
	23	Life Series	Clothing
	24	Assume Serve	Home
	25	South Free	Clothing

	product_id	name	category
	26	Movement Future	Electronics
	27	Answer But	Home
	28	East Foot	Toys
	29	Droop Remember	Electronics
	30	Future Sort	Home
	31	Series Page	Electronics
	32	Factor Where	Clothing
	33	Involve Officer	Clothing
	34	Despite Win	Electronics
	35	Fire Often	Electronics
	36	Television Stock	Clothing
	37	Between Up	Toys
	38	Study Total	Toys
	39	Data Add	Books
	40	Toward Minute	Clothing
	41	Serious Recoanize	Electronics
	42	Weight Enter	Clothing
	43	Least Green	Toys
	44	Actually Term	Electronics
	45	Suffer We	Electronics
	46	Aae Treatment	Home
	47	Southern Thind	Electronics
	48	Group But	Clothing
	49	Rest Something	Books
	50	Stock Article	Home

3. List all orders with their payment method (INNER JOIN).

Query -

SELECT

```
O.order_id,  
O.order_date,  
O.total_amount,  
PM.method  
  
FROM orders AS O  
  
INNER JOIN payments AS PM  
  
ON O.order_id = PM.order_id;
```

Output -

	order_id	order_date	total_amount	method
1	2025-03-02 07:20:11	9414.28	Credit Card	
2	2024-10-09 18:08:21	532.20	Net Banking	
3	2025-05-08 00:08:27	5164.56	Credit Card	
4	2024-09-19 22:16:13	9469.78	UPI	
5	2025-04-08 18:02:06	14501.86	UPI	
6	2024-10-25 07:33:59	31050.17	UPI	
7	2024-07-29 11:58:47	3043.67	UPI	
8	2024-07-30 22:49:49	32714.06	Net Banking	
9	2025-06-10 17:00:25	24219.20	Net Banking	
10	2025-02-16 12:45:59	24342.52	Debit Card	
11	2025-03-11 14:22:46	16196.13	Credit Card	
12	2025-01-15 13:22:53	9890.72	Credit Card	
13	2025-05-12 13:04:29	9627.36	UPI	
14	2024-09-24 21:21:38	15803.34	UPI	
15	2024-07-18 03:18:24	12421.88	UPI	
16	2024-09-09 03:00:40	22856.73	UPI	
17	2024-08-19 21:17:57	11173.77	UPI	
18	2024-06-15 12:57:04	32001.24	Net Banking	
19	2024-07-06 15:28:24	843.46	Net Banking	
20	2024-08-24 04:48:37	6400.68	Debit Card	

4. Get list of customers and their orders (LEFT JOIN)

Used to find all customers and see who has or hasn't placed orders.

Query -

SELECT

```

C.customer_id,
C.name,
O.order_id,
O.order_date,
O.total_amount

FROM customers AS C
LEFT JOIN orders AS O
ON C.customer_id = O.customer_id
ORDER BY C.customer_id;

```

Output -

	customer_id	name	order_id	order_date	total_amount
	1	Thomas Owens	14	2024-09-24 21:21:38	15803.34
	1	Thomas Owens	17	2024-08-19 21:17:57	11173.77
	1	Thomas Owens	61	2024-12-26 23:21:58	13053.00
	1	Thomas Owens	76	2025-01-14 22:59:54	23506.81
	1	Thomas Owens	92	2024-09-26 11:33:58	834.75
	1	Thomas Owens	109	2025-03-17 04:56:18	12190.14
	1	Thomas Owens	127	2025-06-10 18:01:32	20160.64
	1	Thomas Owens	135	2025-03-11 22:58:23	8891.79
	1	Thomas Owens	144	2024-09-19 09:18:22	12093.54
	1	Thomas Owens	221	2024-09-25 05:49:39	12437.61
	1	Thomas Owens	278	2025-02-01 20:05:38	32015.16
	1	Thomas Owens	379	2025-03-22 15:57:58	21586.89
	2	Charles Grant	56	2024-06-23 15:59:57	6828.61
	2	Charles Grant	169	2025-02-11 04:04:38	9426.30
	2	Charles Grant	209	2024-10-16 10:07:48	7690.62
	2	Charles Grant	223	2024-11-25 01:32:18	41020.75
	2	Charles Grant	230	2024-07-25 22:19:17	22655.32
	2	Charles Grant	232	2025-05-02 17:14:21	9583.84
	2	Charles Grant	248	2025-06-06 14:36:15	9829.50
	2	Charles Grant	283	2025-03-22 17:37:20	14493.79
	2	Charles Grant	315	2025-01-27 15:23:27	42056.04
	2	Charles Grant	319	2025-04-22 19:16:07	1024.92
	2	Charles Grant	329	2025-03-19 10:36:50	31387.01
	2	Charles Grant	334	2025-01-27 04:14:50	27857.86
	2	Charles Grant	335	2024-08-29 05:53:29	11713.56

5. List all products along with order item quantity (LEFT JOIN).

Query -

```

SELECT
    P.product_id,
    P.name,
    P.category,
    SUM(OI.quantity AS total_quantity_sold
FROM products AS P
LEFT JOIN order_items AS OI
ON P.product_id = OI.product_id
GROUP BY P.product_id, P.name, P.category;

```

Output -

	product_id	name	category	total_quantity_sold
1	Plant No	Home	43	
2	Population Social	Clothing	33	
3	Available Answer	Electronics	47	
4	Anv Question	Clothing	30	
5	Natural Network	Toys	44	
6	If Whatever	Electronics	54	
7	Response Indeed	Clothing	39	
8	Everv Amount	Home	61	
9	Common Studv	Toys	57	
10	Development System	Electronics	53	
11	Build Her	Books	50	
12	Action Ask	Electronics	47	
13	Full West	Books	46	
14	Listen Developement	Home	43	
15	Place Low	Electronics	36	
16	Spacial Fact	Toys	50	
17	Evervthing Plant	Books	58	
18	Some Them	Toys	63	
19	Build High	Clothing	46	
20	Real Source	Books	60	
21	Bed Indudina	Clothing	48	
22	Move Small	Books	60	
23	Life Series	Clothing	52	
24	Assume Serve	Home	83	
25	South Free	Clothing	51	
26	Movement Future	Electronics	51	
27	Answer But	Home	46	
28	East Foot	Toys	40	

6. List all payments including those with no matching orders (RIGHT JOIN).

Query -

```
SELECT  
    O.order_id,  
    O.order_date,  
    P.payment_id,  
    P.payment_date,  
    P.amount_paid,  
    P.method  
FROM orders AS O  
RIGHT JOIN payments AS P  
ON O.order_id = P.order_id;
```

Output -

	order_id	order_date	payment_id	payment_date	amount_paid	method
1	2025-03-02 07:20:11	1	2025-03-02 08:16:11	9414.28	Credit Card	
2	2024-10-09 18:08:21	2	2024-10-09 19:00:21	532.20	Net Banking	
3	2025-05-08 00:08:27	3	2025-05-08 00:55:27	5164.56	Credit Card	
4	2024-09-19 22:16:13	4	2024-09-19 22:28:13	9469.78	UPI	
5	2025-04-08 18:02:06	5	2025-04-08 18:26:06	14501.86	UPI	
6	2024-10-25 07:33:59	6	2024-10-25 08:16:59	31050.17	UPI	
7	2024-07-29 11:58:47	7	2024-07-29 12:45:47	3043.67	UPI	
8	2024-07-30 22:49:49	8	2024-07-30 23:42:49	32714.06	Net Banking	
9	2025-06-10 17:00:25	9	2025-06-10 17:36:25	24219.20	Net Banking	
10	2025-02-16 12:45:59	10	2025-02-16 13:43:59	24342.52	Debit Card	
11	2025-03-11 14:22:46	11	2025-03-11 15:05:46	16196.13	Credit Card	
12	2025-01-15 13:22:53	12	2025-01-15 14:00:53	9890.72	Credit Card	
13	2025-05-12 13:04:29	13	2025-05-12 14:01:29	9627.36	UPI	
14	2024-09-24 21:21:38	14	2024-09-24 22:11:38	15803.34	UPI	
15	2024-07-18 03:18:24	15	2024-07-18 03:45:24	12421.88	UPI	
16	2024-09-09 03:00:40	16	2024-09-09 03:38:40	22856.73	UPI	
17	2024-08-19 21:17:57	17	2024-08-19 21:49:57	11173.77	UPI	
18	2024-06-15 12:57:04	18	2024-06-15 13:45:04	32001.24	Net Banking	
19	2024-07-06 15:28:24	19	2024-07-06 15:43:24	843.46	Net Banking	
20	2024-08-24 04:48:37	20	2024-08-24 04:59:37	6400.68	Debit Card	
21	2025-03-12 18:53:46	21	2025-03-12 19:48:46	25364.11	Debit Card	
22	2025-02-21 11:21:06	22	2025-02-21 12:05:06	21281.44	Credit Card	
23	2025-03-02 14:33:23	23	2025-03-02 15:03:23	18045.05	Debit Card	
24	2024-06-19 07:09:04	24	2024-06-19 07:28:04	22882.19	UPI	
25	2024-07-24 12:56:24	25	2024-07-24 13:17:24	23749.66	UPI	
26	2025-02-16 23:16:49	26	2025-02-16 23:26:49	35167.92	Credit Card	

	order_id	order_date	payment_id	payment_date	amount_paid	method
	375	2024-11-15 21:29:07	375	2024-11-15 21:48:07	6911.65	Credit Card
	376	2025-02-09 14:11:03	376	2025-02-09 14:32:03	1016.68	Net Banking
	377	2025-03-14 23:03:23	377	2025-03-14 23:48:23	13580.06	Credit Card
	378	2024-11-26 04:48:45	378	2024-11-26 05:43:45	10030.43	Debit Card
	379	2025-03-22 15:57:58	379	2025-03-22 16:48:58	21586.89	Credit Card
	380	2024-12-25 03:30:27	380	2024-12-25 04:26:27	1669.50	Debit Card
	381	2024-10-20 08:48:26	381	2024-10-20 09:41:26	7087.16	Credit Card
	382	2025-04-08 09:49:19	382	2025-04-08 10:00:19	16304.96	Debit Card
	383	2024-07-05 13:30:29	383	2024-07-05 13:59:29	18148.12	Debit Card
	384	2024-12-26 20:11:34	384	2024-12-26 20:21:34	9232.97	Net Banking
	385	2025-02-28 21:31:55	385	2025-02-28 22:20:55	23042.67	UPI
	386	2024-12-18 11:35:41	386	2024-12-18 12:34:41	25747.34	Debit Card
	387	2024-07-20 11:57:57	387	2024-07-20 12:24:57	6155.64	Net Banking
	388	2025-03-08 00:36:03	388	2025-03-08 01:00:03	17639.96	Debit Card
	389	2025-01-01 08:16:36	389	2025-01-01 08:43:36	20299.18	Net Banking
	390	2025-06-06 16:22:38	390	2025-06-06 16:37:38	18092.48	UPI
	391	2024-12-28 05:20:03	391	2024-12-28 05:55:03	4733.08	Net Banking
	392	2024-11-12 21:00:20	392	2024-11-12 21:31:20	27858.02	Debit Card
	393	2024-12-17 21:08:26	393	2024-12-17 21:51:26	44504.56	Debit Card
	394	2025-06-05 18:39:21	394	2025-06-05 19:34:21	18154.30	Net Banking
	395	2025-02-11 06:20:16	395	2025-02-11 06:37:16	12331.34	Debit Card
	396	2024-07-21 04:35:22	396	2024-07-21 05:27:22	35029.57	UPI
	397	2024-11-10 15:30:55	397	2024-11-10 15:54:55	26820.10	Credit Card
	398	2024-11-07 14:52:53	398	2024-11-07 15:28:53	13212.61	Debit Card
	399	2025-02-08 16:59:16	399	2025-02-08 17:33:16	19557.58	UPI
	400	2024-10-22 17:42:29	400	2024-10-22 18:18:29	5269.50	Credit Card

7. Combine data from three tables: customer, order, and payment.

Query -.

SELECT

```

C.customer_id,
C.name,
O.order_id,
O.order_date,
O.total_amount,
PM.payment_date,
PM.amount_paid,
PM.method

```

FROM customers AS C

INNER JOIN orders AS O
 ON C.customer_id = O.customer_id
 INNER JOIN payments AS PM
 ON O.order_id = PM.order_id;

Output -

	customer_id	name	order_id	order_date	total_amount	payment_date	amount_paid	method
1	Thomas Owens	14	2024-09-24 21:21:38	15803.34	2024-09-24 22:11:38	15803.34	UPI	
1	Thomas Owens	17	2024-08-19 21:17:57	11173.77	2024-08-19 21:49:57	11173.77	UPI	
1	Thomas Owens	61	2024-12-26 23:21:58	13053.00	2024-12-26 23:31:58	13053.00	Net Banking	
1	Thomas Owens	76	2025-01-14 22:59:54	23506.81	2025-01-14 23:33:54	23506.81	Credit Card	
1	Thomas Owens	92	2024-09-26 11:33:58	834.75	2024-09-26 12:03:58	834.75	Net Banking	
1	Thomas Owens	109	2025-03-17 04:56:18	12190.14	2025-03-17 05:16:18	12190.14	UPI	
1	Thomas Owens	127	2025-06-10 18:01:32	20160.64	2025-06-10 18:57:32	20160.64	Debit Card	
1	Thomas Owens	135	2025-03-11 22:58:23	8891.79	2025-03-11 23:11:23	8891.79	Debit Card	
1	Thomas Owens	144	2024-09-19 09:18:22	12093.54	2024-09-19 10:10:22	12093.54	UPI	
1	Thomas Owens	221	2024-09-25 05:49:39	12437.61	2024-09-25 06:25:39	12437.61	UPI	
1	Thomas Owens	278	2025-02-01 20:05:38	32015.16	2025-02-01 21:05:38	32015.16	UPI	
1	Thomas Owens	379	2025-03-22 15:57:58	21586.89	2025-03-22 16:48:58	21586.89	Credit Card	
2	Charles Grant	56	2024-06-23 15:59:57	6828.61	2024-06-23 16:24:57	6828.61	Credit Card	
2	Charles Grant	169	2025-02-11 04:04:38	9426.30	2025-02-11 04:37:38	9426.30	Credit Card	
2	Charles Grant	209	2024-10-16 10:07:48	7690.62	2024-10-16 10:37:48	7690.62	Debit Card	
2	Charles Grant	223	2024-11-25 01:32:18	41020.75	2024-11-25 02:09:18	41020.75	Debit Card	
2	Charles Grant	230	2024-07-25 22:19:17	22655.32	2024-07-25 22:41:17	22655.32	Credit Card	
2	Charles Grant	232	2025-05-02 17:14:21	9583.84	2025-05-02 17:57:21	9583.84	UPI	
2	Charles Grant	248	2025-06-06 14:36:15	9829.50	2025-06-06 15:16:15	9829.50	Credit Card	
2	Charles Grant	283	2025-03-22 17:37:20	14493.79	2025-03-22 17:52:20	14493.79	Net Banking	
2	Charles Grant	315	2025-01-27 15:23:27	42056.04	2025-01-27 15:52:27	42056.04	UPI	
2	Charles Grant	319	2025-04-22 19:16:07	1024.92	2025-04-22 19:58:07	1024.92	Net Banking	
2	Charles Grant	329	2025-03-19 10:36:50	31387.01	2025-03-19 10:48:50	31387.01	UPI	
2	Charles Grant	334	2025-01-27 04:14:50	27857.86	2025-01-27 05:08:50	27857.86	Net Banking	
2	Charles Grant	335	2024-08-29 05:53:29	11713.56	2024-08-29 06:09:29	11713.56	Net Banking	
2	Charles Grant	377	2025-03-14 23:03:23	13580.06	2025-03-14 23:48:23	13580.06	Credit Card	
2	Charles Grant	378	2024-11-26 04:48:45	10030.43	2024-11-26 05:43:45	10030.43	Debit Card	
2	Charles Grant	381	2024-10-20 08:48:26	7087.16	2024-10-20 09:41:26	7087.16	Credit Card	
2	Charles Grant	394	2025-06-05 18:39:21	18154.30	2025-06-05 19:34:21	18154.30	Net Banking	
3	Kaitlin Richards	42	2025-05-25 05:16:38	21622.22	2025-05-25 05:39:38	21622.22	UPI	

Level 5: Subqueries (Inner Queries)

- 1. List all products priced above the average product price.**

Query -

```
SELECT product_id, name, price
```

```
FROM products
```

```

WHERE price >
(
SELECT AVG(price) FROM products
);

```

Output -

Result Grid			Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
product_id	name	price				
2	Population Social	4813.68				
4	Anv Question	4759.28				
5	Natural Network	4722.66				
7	Response Indeed	4897.36				
8	Everv Amount	4173.60				
10	Development System	4801.78				
12	Action Ask	4017.01				
18	Some Them	3673.86				
19	Build High	4707.14				
20	Real Source	4398.66				
21	Bed Includina	3845.31				
22	Move Small	4168.08				
24	Assume Serve	3437.81				
25	South Free	3543.58				
26	Movement Future	3502.62				
29	Droo Remember	4160.45				
30	Future Sort	3043.67				
33	Involve Officer	4244.09				
35	Fire Often	4734.89				
38	Studv Total	4413.68				
39	Data Add	4063.38				
41	Serious Recoanize	4523.10				
42	Weight Enter	3875.18				
45	Suffer We	3657.43				
46	Aoe Treatment	3728.83				
48	Group But	4180.23				
49	Rest Somethina	3077.82				
HULL	HULL	HULL				

2. Find customers who have placed at least one order.

Query -

```
SELECT customer_id, name
```

```
FROM customers
```

```
WHERE customer_id IN
```

```
(
```

```
SELECT DISTINCT customer_id
```

```
FROM orders
```

```
);
```

Output -

	customer_id	name
1	Thomas Owens	
2	Charles Grant	
3	Kaitlin Richards	
4	Christina Williams	
5	David Allen	
6	Mark Duke	
7	Briana Wright	
8	John Bryan	
9	Jason Thompson	
10	Shawn Hill	
11	Walter Jenkins	
12	Marv Knight	
13	Leslie Wilson	
14	Deborah Arias	
15	Austin Flores	
16	Amv Landry	
17	Randy Mooney	
18	Jeffrey Brav	
19	Amanda Bright	
20	Megan Lee	
21	Jessica Zamora	
22	Peter Phillips	
23	Kathryn Mathews	
24	Brandy Wright	
25	Cindy Hart	
26	Victoria Hall	
27	Adrienne Green	
28	Joseph Stuart	
29	Kara Zavala	
30	Victoria Acevedo	

3. Show orders whose total amount is above the average for that customer.

Query -

```
SELECT
```

```
    O.order_id,  
    O.customer_id,  
    O.total_amount
```

```
FROM orders AS O
```

```
WHERE O.total_amount >
```

```

(
SELECT AVG(OD.total_amount)
FROM orders AS OD
WHERE OD.customer_id = O.customer_id
);

```

Output -

Result Grid			Filter Rows:	Edit:	Export/Import:
	order_id	customer_id	total_amount		
	6	29	31050.17		
	8	19	32714.06		
	9	6	24219.20		
	10	28	24342.52		
	14	1	15803.34		
	16	5	22856.73		
	18	13	32001.24		
	21	22	25364.11		
	22	20	21281.44		
	24	6	22882.19		
	25	17	23749.66		
	26	24	35167.92		
	29	7	26308.25		
	30	23	18628.74		
	32	15	23536.35		
	33	8	36147.09		
	36	25	34125.89		
	40	26	24649.49		
	42	3	21622.22		
	44	12	17686.50		
	45	19	27016.65		
	46	29	24408.08		
	48	28	28719.50		
	49	28	23353.47		
	50	6	14204.67		
	51	16	24811.55		
	52	30	30529.35		
	55	24	26001.31		
	62	10	35723.17		
	63	3	36236.03		

4. Display customers who haven't placed any orders.

Query -

```

SELECT customer_id, name
FROM customers

```

```
WHERE customer_id NOT IN (
    SELECT customer_id
    FROM orders
);
```

Output -

Result Grid		Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
customer_id	name				
HULL	HULL				

** No Customers found who haven't placed any orders.

5. Show products that were never ordered.

Query -

```
SELECT product_id, name
FROM products
WHERE product_id NOT IN (
    SELECT DISTINCT product_id
    FROM order_items
);
```

Output -

Result Grid		Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
product_id	name				
HULL	HULL				

6. Show highest value order per customer.

Query -

```
SELECT order_id, customer_id, total_amount
FROM orders
WHERE (customer_id, total_amount) IN
```

```

(
SELECT customer_id, MAX(total_amount)
FROM orders
GROUP BY customer_id
);

```

Output -

	order_id	customer_id	total_amount
	18	13	32001.24
	33	8	36147.09
	62	10	35723.17
	66	27	26176.05
	68	24	36159.92
	80	12	38656.26
	107	14	48042.06
	121	16	37415.67
	128	7	28589.04
	133	11	37129.82
	139	18	39857.19
	174	19	35676.00
	189	25	40872.29
	196	21	24096.64
	198	22	36504.68
	243	15	40510.54
	256	17	40944.10
	258	26	38836.44
	266	5	39921.78
	267	23	33419.96
	278	1	32015.16
	281	3	41679.11
	309	29	43867.08
	315	2	42056.04
	327	20	39563.51
	330	6	39003.19
	348	9	21414.44
	368	30	34761.91
	386	4	25747.34

7. Highest Order Per Customer (Including Names)

Used to identify the largest transaction made by each customer. Outputs name as well.

Query -

SELECT

C.customer_id,

```
C.name,  
O.order_id,  
O.total_amount  
FROM orders AS O  
JOIN customers AS C  
ON O.customer_id = C.customer_id  
WHERE (O.customer_id, O.total_amount) IN  
(  
    SELECT customer_id, MAX(total_amount)  
    FROM orders  
    GROUP BY customer_id  
);
```

Output -

Result Grid | Filter Rows: Export: Wrap Cell Content:

	customer_id	name	order_id	total_amount
1	Thomas Owens	278	32015.16	
2	Charles Grant	315	42056.04	
3	Kaitlin Richards	281	41679.11	
4	Christina Williams	386	25747.34	
5	David Allen	266	39921.78	
6	Mark Duke	330	39003.19	
7	Briana Wright	128	28589.04	
8	John Brvan	33	36147.09	
9	Jason Thompson	348	21414.44	
10	Shawn Hill	62	35723.17	
11	Walter Jenkins	133	37129.82	
12	Marv Kniatt	80	38656.26	
13	Leslie Wilson	18	32001.24	
14	Deborah Arias	107	48042.06	
15	Austin Flores	243	40510.54	
16	Amv Landrv	121	37415.67	
17	Randy Moonev	256	40944.10	
18	Jeffrey Brav	139	39857.19	
19	Amanda Bright	174	35676.00	
20	Medan Lee	327	39563.51	
21	Jessica Zamora	196	24096.64	
22	Peter Phillips	198	36504.68	
23	Kathrvn Mathews	267	33419.96	
24	Brandy Wright	68	36159.92	
25	Cindy Hart	189	40872.29	
26	Victoria Hall	258	38836.44	
27	Adrienne Green	66	26176.05	
28	Joseph Stuart	393	44504.56	
29	Kara Zavala	309	43867.08	
30	Victoria Acevedo	368	34761.91	

Level 6: Set Operations

1. List all customers who have either placed an order or written a product review

SELECT

```
C.customer_id  
C.name as customers_with_order_or_reviews  
FROM customers AS C  
WHERE C.customer_id IN (  
    SELECT customer_id FROM orders  
    UNION  
    SELECT customer_id FROM product_reviews  
);
```

customer_id	customers_with_order_or_reviews
1	Thomas Owens
2	Charles Grant
3	Kaitlin Richards
4	Christina Williams
5	David Allen
6	Mark Duke
7	Briana Wright
8	John Brvan
9	Jason Thompson
10	Shawn Hill
11	Walter Jenkins
12	Marv Knight
13	Leslie Wilson
14	Deborah Arias
15	Austin Flores
16	Amv Landrv
17	Randy Mooney
18	Jeffrey Brav
19	Amanda Bright
20	Megan Lee
21	Jessica Zamora
22	Peter Phillips
23	Kathryn Mathews
24	Brandy Wright
25	Cindy Hart
26	Victoria Hall
27	Adrienne Green
28	Joseph Stuart
29	Kara Zavala
30	Victoria Acevedo
NULL	NULL

2. List all customers who have placed an order as well as reviewed a product [intersect not supported]

Query -

```
SELECT DISTINCT C.customer_id, C.name AS customers_with_order_and_reviews  
FROM customers AS C  
INNER JOIN orders AS O  
ON C.customer_id = O.customer_id  
INNER JOIN product_reviews AS R  
ON C.customer_id = R.customer_id;
```

Output -

	customer_id	customers_with_order_and_reviews
1		Thomas Owens
2		Charles Grant
4		Christina Williams
6		Mark Duke
7		Briana Wright
9		Jason Thomson
10		Shawn Hill
11		Walter Jenkins
13		Leslie Wilson
14		Deborah Arias
15		Austin Flores
17		Randy Mooney
19		Amanda Bright
20		Megan Lee
21		Jessica Zamora
22		Peter Phillips
23		Kathryn Mathews
25		Cindy Hart
26		Victoria Hall
27		Adrienne Green
28		Joseph Stuart
29		Kara Zavala
30		Victoria Acevedo