SQL COMMANDS:

– Create a new database ecommerce

CREATE DATABASE ecommerce
USE ecommerce

– Create three tables: customers, orders, and products.

CREATE TABLE Customers(
  id INTEGER PRIMARY KEY AUTOINCREMENT,
  name varchar(30),
  email varchar(50),
  address varchar(255)
);
CREATE TABLE Products(
  id INTEGER PRIMARY KEY AUTOINCREMENT,
  name varchar(30),
  price INTEGER,
  description TEXT
);
CREATE TABLE Orders(
  id INTEGER PRIMARY KEY AUTOINCREMENT,
  customer_id INTEGER,
  order_date DATE,
  total_amount INTEGER,
  FOREIGN KEY(customer_id) REFERENCES Customers(id)
);

– Inserting sample data into the tables.

INSERT INTO Customers(name,email,address) VALUES
("Vikram","vikram1996@gmail.com","18,gandhi road, cbe-636554"),("Sabarish","Sab1952ri@yahoo.com","57/85 anna nagar, chennai - 636854"),("Madhumitha","Madhumids@gmail.com","plot no.8, Dharmapuri - 636984"),("Hemanth","Hemanth695785@gmail.com","25-96, saradha college road, Salem -636003"),("Badri","Badrivisalakshi41@gmail.com","25-65/A, Omalur main road, Salem -636004"),("Anu","Anumeenu@gmail.com","Meenambakkam, Chennai -636574"),("Alice","Alice2001@gmail.com","Flat no. 248, Saradha apartments, Chennai -695874"),("Bhavani","Bhava@gmail.com","789 ayz street, Kanyakumari -535584");

INSERT INTO Products(name,price,description) VALUES
("MBJ Women's Solid Short Sleeve Shirt","499","95% RAYON 5% SPANDEX, Made in USA or Imported, Do Not Bleach, Lightweight fabric with great stretch for comfort"),("Opna Women's Short Sleeve Pink t-shirt","699","100% Polyester, Machine wash, 100% cationic polyester interlock, Machine Wash & Pre Shrunk for a Great Fit, Lightweight, roomy and highly breathable with moisture wicking fabric "),("DANVOY Womens T Shirt Casual Cotton","599","95%Cotton,5%Spandex, Features: Casual, Short Sleeve, Letter Print,V-Neck,Fashion Tees, The fabric is soft and has some stretch"),("Pearl necklace with stud","2999","Pearl necklaces are a timeless piece of pearl jewellery that never goes out of style. Buy this stunning white pearl necklace with a beautiful pair of earrings"),("Mens Casual Premium Slim Fit T-Shirts","399","Slim-fbreathable and comfortable wearing. And Solid stitched shirts with round neck made for durability and a great fit for casual wear"),("Mens Cotton Jacket","1999","Great outerwear jackets for Spring/Autumn/Winter, suitable for many occasions, such as working, hiking, camping, mountain/rock climbing, cycling, traveling or other outdoors."),("Mens Casual Slim Fit","699","The color could be slightly different between on the screen and in practice."),("Lock and Love Men's Moto Biker Jacket","3999","Faux leather material for style and comfort - 2 pockets of front, 2-For-One Hooded denim style faux leather jacket, Button detail on waist - Detail stitching at sides, HAND WASH ONLY - DO NOT BLEACH -LINE DRY - DO NOT IRON");

INSERT INTO Orders(customer_id,order_date,total_amount) VALUES
("1",DATE("now","-5 days"),"1198"),("4",DATE("now","-15 days"),"699"),("5",DATE("now","-30 days"),"3999"),("2",DATE("now","-30 days"),"4698"),("8",DATE("now","-45 days"),"1999"),("3",DATE("now","-5 days"),"599"),("6",DATE("now","-60 days"),"1098"),("7",DATE("now","-45 days"),"499");
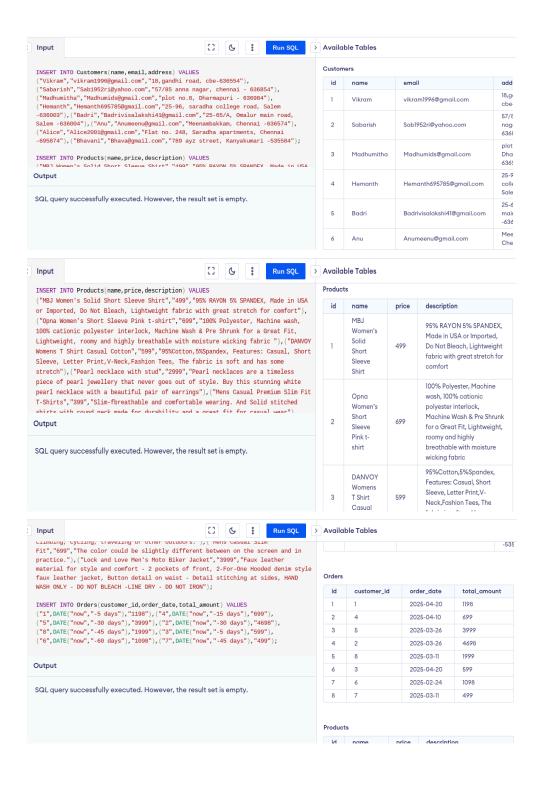
```sql
INSERT INTO Customers(name,email,address) VALUES
("Vikram","vikram1996@gmail.com","18,gandhi road, cbe-636554"),
("Sabarish","Sab1952ri@yahoo.com","57/85 anna nagar, chennai - 636854"),
("Madhumitha","Madhumids@gmail.com","plot no.8, Dharmapuri - 636984"),
("Hemanth","Hemanth695785@gmail.com","25-96, saradha college road, Salem
-636003"),("Badri","Badrivisalakshi41@gmail.com","25-65/A, Omalur main road,
Salem -636004"),("Anu","Anumeenu@gmail.com","Meenambakkam, Chennai -636574"),
("Alice","Alice2001@gmail.com","Flat no. 248, Saradha apartments, Chennai
-695874"),("Bhavani","Bhava@gmail.com","789 ayz street, Kanyakumari -535584");

INSERT INTO Products(name,price,description) VALUES
("MBJ Women's Solid Short Sleeve Shirt","499","95% RAYON 5% SPANDEX, Made in USA
```

Output

SQL query successfully executed. However, the result set is empty.

Available Tables

Customers

id	name	email	add
1	Vikram	vikram1996@gmail.com	18,g cbe
2	Sabarish	Sab1952ri@yahoo.com	57/8 nag 636
3	Madhumitha	Madhumids@gmail.com	plot Dha 636
4	Hemanth	Hemanth695785@gmail.com	25-9 coll Sale
5	Badri	Badrivisalakshi41@gmail.com	25-6 mai -636
6	Anu	Anumeenu@gmail.com	Mee Che

```sql
INSERT INTO Products(name,price,description) VALUES
("MBJ Women's Solid Short Sleeve Shirt","499","95% RAYON 5% SPANDEX, Made in USA
or Imported, Do Not Bleach, Lightweight fabric with great stretch for comfort"),
("Opna Women's Short Sleeve Pink t-shirt","699","100% Polyester, Machine wash,
100% cationic polyester interlock, Machine Wash & Pre Shrunk for a Great Fit,
Lightweight, roomy and highly breathable with moisture wicking fabric "),("DANVOY
Womens T Shirt Casual Cotton","599","95%Cotton,5%Spandex, Features: Casual, Short
Sleeve, Letter Print,V-Neck,Fashion Tees, The fabric is soft and has some
stretch"),("Pearl necklace with stud","2999","Pearl necklaces are a timeless
piece of pearl jewellery that never goes out of style. Buy this stunning white
pearl necklace with a beautiful pair of earrings"),("Mens Casual Premium Slim Fit
T-Shirts","399","Slim-fbreathable and comfortable wearing. And Solid stitched
shirts with round neck made for durability and a great fit for casual wear")
```

Output

SQL query successfully executed. However, the result set is empty.

Available Tables

Products

id	name	price	description
1	MBJ Women's Solid Short Sleeve Shirt	499	95% RAYON 5% SPANDEX, Made in USA or Imported, Do Not Bleach, Lightweight fabric with great stretch for comfort
2	Opna Women's Short Sleeve Pink t-shirt	699	100% Polyester, Machine wash, 100% cationic polyester interlock, Machine Wash & Pre Shrunk for a Great Fit, Lightweight, roomy and highly breathable with moisture wicking fabric
3	DANVOY Womens T Shirt Casual	599	95%Cotton,5%Spandex, Features: Casual, Short Sleeve, Letter Print,V-Neck,Fashion Tees, The

```sql
climbing, cycling, traveling or other outdoors. "),("Mens Casual Slim
Fit","699","The color could be slightly different between on the screen and in
practice."),("Lock and Love Men's Moto Biker Jacket","3999","Faux leather
material for style and comfort - 2 pockets of front, 2-For-One Hooded denim style
faux leather jacket, Button detail on waist - Detail stitching at sides, HAND
WASH ONLY - DO NOT BLEACH -LINE DRY - DO NOT IRON");

INSERT INTO Orders(customer_id,order_date,total_amount) VALUES
("1",DATE("now","-5 days"),"1198"),("4",DATE("now","-15 days"),"699"),
("5",DATE("now","-30 days"),"3999"),("2",DATE("now","-30 days"),"4698"),
("8",DATE("now","-45 days"),"1999"),("3",DATE("now","-5 days"),"599"),
("6",DATE("now","-60 days"),"1098"),("7",DATE("now","-45 days"),"499");
```

Output

SQL query successfully executed. However, the result set is empty.

Available Tables

-535

Orders

id	customer_id	order_date	total_amount
1	1	2025-04-20	1198
2	4	2025-04-10	699
3	5	2025-03-26	3999
4	2	2025-03-26	4698
5	8	2025-03-11	1999
6	3	2025-04-20	599
7	6	2025-02-24	1098
8	7	2025-03-11	499

Products

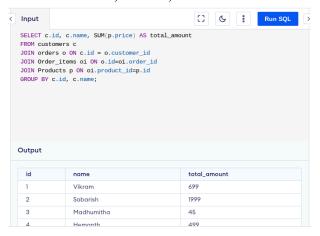| id	name	price	description

Queries:

– Customers who have placed an order in the last 30 days
Select c.*
FROM Customers c
JOIN Orders o ON c.id=o.customer_id
WHERE o.order_date>=date('now','-30 days');

Output

i d	name	email	address
1	Vikram	vikram1996@gmail.com	18,gandhi road, cbe-636554
4	Hemanth	Hemanth695785@gmail.com	25-96, saradha college road, Salem -636003
5	Badri	Badrivisalakshi41@gmail.com	25-65/A, Omalur main road, Salem -636004
2	Sabarish	Sab1952ri@yahoo.com	57/85 anna nagar, chennai - 636854
3	Madhumitha	Madhumids@gmail.com	plot no.8, Dharmapuri - 636984

– Total amount of all orders placed by each customer.
SELECT c.id, c.name, SUM(p.price) AS total_amount
FROM customers c
JOIN orders o ON c.id = o.customer_id
JOIN Order_items oi ON o.id=oi.order_id
JOIN Products p ON oi.product_id=p.id

GROUP BY c.id, c.name;


```sql
SELECT c.id, c.name, SUM(p.price) AS total_amount
FROM customers c
JOIN orders o ON c.id = o.customer_id
JOIN Order_items oi ON o.id=oi.order_id
JOIN Products p ON oi.product_id=p.id
GROUP BY c.id, c.name;
```

Output

id	name	total_amount
1	Vikram	699
2	Sabarish	1999
3	Madhumitha	45
4	Hemanth	499

--UPDATE the price of Product DANVOY Womens T Shirt Casual Cotton to 45.00
UPDATE Products
SET price=45
WHERE name= "DANVOY Womens T Shirt Casual Cotton";


```sql
--UPDATE the price of Product DANVOY Womens T Shirt Casual Cotton to 45.00
UPDATE Products
SET price=45
WHERE name= "DANVOY Womens T Shirt Casual Cotton";
```

Output

SQL query successfully executed. However, the result set is empty.

2	Short Sleeve Pink t-shirt	699	& Pre Shrunk for a Great Fit, Lightweight, roomy and highly breathable with moisture wicking fabric	0
3	DANVOY Womens T Shirt Casual Cotton	45	95%Cotton,5%Spandex, Features: Casual, Short Sleeve, Letter Print,V-Neck,Fashion Tees, The fabric is soft and has some stretch	0
4	Pearl necklace with stud	2999	Pearl necklaces are a timeless piece of pearl jewellery that never goes out of style. Buy this stunning white pearl necklace with a beautiful pair of earrings	0
	Mens		Slim-fbreathable and comfortable wearing.	

--Add a new column discount to the products table.
ALTER TABLE Products
ADD COLUMN Discount INTEGER DEFAULT 0;

Products

name	price	description	Discount
MBJ Women's Solid Short Sleeve Shirt	499	95% RAYON 5% SPANDEX, Made in USA or Imported, Do Not Bleach, Lightweight fabric with great stretch for comfort	0
Opna Women's Short Sleeve Pink t-shirt	699	100% Polyester, Machine wash, 100% cationic polyester interlock, Machine Wash & Pre Shrunk for a Great Fit, Lightweight, roomy and highly breathable with moisture wicking fabric	0
DANVOY Womens		95%Cotton,5%Spandex, Features: Casual, Short	

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--Retrieve the top 3 products with the highest price.
SELECT * FROM Products
Order by price DESC
Limit 3;

Output

id	name	price	description
8	Lock and Love Men's Moto Biker Jacket	3999	Faux leather material for style and comfort - 2 pockets of front, 2-For-One Hooded denim style faux leather jacket, Button detail on waist - Detail stitching at sides, HAND WASH ONLY - DO NOT BLEACH -LINE DRY - DO NOT IRON
4	Pearl necklace with stud	2999	Pearl necklaces are a timeless piece of pearl jewellery that never goes out of style. Buy this stunning white pearl necklace with a beautiful pair of earrings

6	Mens Cotton Jacket	1 9 9 9	Great outerwear jackets for Spring/Autumn/Winter, suitable for many occasions, such as working, hiking, camping, mountain/rock climbing, cycling, traveling or other outdoors.

— Normalizing the database by creating a order_items table to reference the order items

CREATE TABLE order_items (
   id INTEGER PRIMARY KEY AUTOINCREMENT,
   order_id INTEGER,
   product_id INTEGER,
   quantity INTEGER,
   FOREIGN KEY (order_id) REFERENCES orders(id),
   FOREIGN KEY (product_id) REFERENCES products(id)
);
INSERT INTO order_items (order_id, product_id, quantity) VALUES
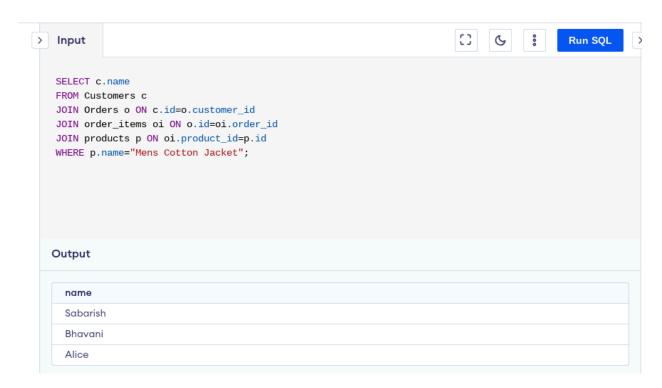(1,7,1),(2,1,1),(3,3,1),(4,6,1),(5,6,1),(6,3,1),(7,5,1),(8,1,1),(9,3,1),(10,2,1),(11,6,1);

– To get the names of customers who have ordered Product "Mens Cotton Jacket"

SELECT c.name
FROM Customers c
JOIN Orders o ON c.id=o.customer_id
JOIN order_items oi ON o.id=oi.order_id
JOIN products p ON oi.product_id=p.id

WHERE p.name="Mens Cotton Jacket";

--Join the orders and customers tables to retrieve the customer's name and order date for each order.

Select c.name,o.order_date
FROM Customers c
JOIN Orders o ON c.id=o.customer_id

Output

name	order_date
Vikram	2025-04-20
Hemanth	2025-04-10

Badri	2025-03-26
Sabarish	2025-03-26
Bhavani	2025-03-11
Madhumitha	2025-04-20
Anu	2025-02-24
Alice	2025-03-11

--Retrieve the orders with a total amount greater than 150.00.

SELECT c.name,o.*
FROM Customers c
JOIN Orders o ON c.id=o.customer_id
WHERE o.total_amount>150

Output

name	id	customer_id	order_date	total_amount
Vikram	1	1	2025-04-20	1198
Hemanth	2	4	2025-04-10	699
Badri	3	5	2025-03-26	3999

Sabarish	4	2	2025-03-26	4698
Bhavani	5	8	2025-03-11	1999
Madhumitha	6	3	2025-04-20	599
Anu	7	6	2025-02-24	1098
Alice	8	7	2025-03-11	499

–Retrieve the average total of all orders.

CREATE VIEW order_total AS
SELECT
o.id AS orderID,o.customer_id AS CustomerID,SUM(p.price*oi.quantity) AS total_amount
FROM Orders o
JOIN order_items oi ON o.id=oi.order_id
JOIN products p ON oi.product_id=p.id
GROUP BY o.id

SELECT AVG(total_amount) FROM order_total;