Ecommerce – SQL

SQL Tables:

1. **customers** table:
    - customer_id (Primary Key)
    - name
    - email
    - password
2. **products** table:
    - product_id (Primary Key)
    - name
    - price
    - description
    - stockQuantity
3. **cart** table:
    - cart_id (Primary Key)
    - customer_id (Foreign Key)
    - product_id (Foreign Key)
    - quantity
4. **orders** table:
    - order_id (Primary Key)
    - customer_id (Foreign Key)
    - order_date
    - total_price
    - shipping_address
5. **order_items** table (to store order details):
    - order_item_id (Primary Key)
    - order_id (Foreign Key)
    - product_id (Foreign Key)
    - quantity

Product Table

productID	name	Description	price	stockQuantity
1	Laptop	High-performance laptop	800.00	10
2	Smartphone	Latest smartphone	600.00	15
3	Tablet	Portable tablet	300.00	20
4	Headphones	Noise-canceling	150.00	30
5	TV	4K Smart TV	900.00	5
6	Coffee Maker	Automatic coffee maker	50.00	25
7	Refrigerator	Energy-efficient	700.00	10
8	Microwave Oven	Countertop microwave	80.00	15

productID	name	Description	price	stockQuantity
9	Blender	High-speed blender	70.00	20
10	Vacuum Cleaner	Bagless vacuum cleaner	120.00	10

Customer Table

customerID	firstName	lastName	Email	address
1	John	Doe	johndoe@example.com	123 Main St, City
2	Jane	Smith	janesmith@example.com	456 Elm St, Town
3	Robert	Johnson	robert@example.com	789 Oak St, Village
4	Sarah	Brown	sarah@example.com	101 Pine St, Suburb
5	David	Lee	david@example.com	234 Cedar St, District
6	Laura	Hall	laura@example.com	567 Birch St, County
7	Michael	Davis	michael@example.com	890 Maple St, State
8	Emma	Wilson	emma@example.com	321 Redwood St, Country
9	William	Taylor	william@example.com	432 Spruce St, Province
10	Olivia	Adams	olivia@example.com	765 Fir St, Territory

Order Table

orderID	customerID	orderDate	totalAmount
1	1	2023-01-05	1200.00
2	2	2023-02-10	900.00
3	3	2023-03-15	300.00
4	4	2023-04-20	150.00
5	5	2023-05-25	1800.00
6	6	2023-06-30	400.00
7	7	2023-07-05	700.00
8	8	2023-08-10	160.00
9	9	2023-09-15	140.00
10	10	2023-10-20	1400.00

OrderItem Table

orderItemID	orderID	productID	quantity	itemAmount
1	1	1	2	1600.00
2	1	3	1	300.00
3	2	2	3	1800.00

orderItemID	orderID	productID	quantity	itemAmount
4	3	5	2	1800.00
5	4	4	4	600.00
6	4	6	1	50.00
7	5	1	1	800.00
8	5	2	2	1200.00
9	6	10	2	240.00
10	6	9	3	210.00

Cart Table

cartID	customerID	productid	quantity
1	1	1	2
2	1	3	1
3	2	2	3
4	3	4	4
5	3	5	2
6	4	6	1
7	5	1	1
8	6	10	2
9	6	9	3
10	7	7	2

1. Update refrigerator product price to 800.
2. Remove all cart items for a specific customer.
3. Retrieve Products Priced Below $100.
4. Find Products with Stock Quantity Greater Than 5.
5. Retrieve Orders with Total Amount Between $500 and $1000.
6. Find Products which name end with letter ‘r’.
7. Retrieve Cart Items for Customer 5.
8. Find Customers Who Placed Orders in 2023.
9. Determine the Minimum Stock Quantity for Each Product Category.
10. Calculate the Total Amount Spent by Each Customer.
11. Find the Average Order Amount for Each Customer.
12. Count the Number of Orders Placed by Each Customer.
13. Find the Maximum Order Amount for Each Customer.
14. Get Customers Who Placed Orders Totaling Over $1000.
15. Subquery to Find Products Not in the Cart.
16. Subquery to Find Customers Who Haven't Placed Orders.
17. Subquery to Calculate the Percentage of Total Revenue for a Product.

18. Subquery to Find Products with Low Stock.
19. Subquery to Find Customers Who Placed High-Value Orders.