SQL : ECOMMERCE DATABASE

```sql
create database Ecommerce_db;
use Ecommerce_db;

CREATE TABLE ecommerce_orders (
    OrderID INT PRIMARY KEY,
    CustomerID INT,
    Product VARCHAR(50),
    Quantity INT,
    Price DECIMAL(10,2),
    City VARCHAR(50),
    OrderDate DATE,
    PaymentMethod VARCHAR(30)
);

INSERT INTO ecommerce_orders
(OrderID, CustomerID, Product, Quantity, Price, City, OrderDate, PaymentMethod)
VALUES

(1, 1023, 'Laptop', 1, 55000, 'Bangalore', '2024-01-12', 'UPI'),
(2, 1542, 'Smartphone', 2, 18000, 'Mumbai', '2024-02-05', 'Credit Card'),
(3, 1891, 'Headphones', 1, 2500, 'Delhi', '2024-01-18', 'Debit Card'),
(4, 1755, 'Shoes', 1, 1500, 'Hyderabad', '2024-03-25', 'Cash on Delivery'),
(5, 1432, 'Keyboard', 1, 900, 'Chennai', '2024-04-10', 'UPI'),
(6, 1988, 'Mouse', 2, 700, 'Pune', '2024-02-02', 'Net Banking'),
(7, 1675, 'Monitor', 1, 12000, 'Kolkata', '2024-05-14', 'Credit Card'),
(8, 1099, 'Backpack', 1, 1300, 'Delhi', '2024-04-29', 'UPI'),
(9, 1880, 'Watch', 1, 3000, 'Bangalore', '2024-03-22', 'Debit Card'),
(10, 1722, 'T-shirt', 3, 1200, 'Mumbai', '2024-02-07', 'Cash on Delivery'),
(11, 1621, 'Laptop', 1, 60000, 'Pune', '2024-06-15', 'Credit Card'),
(12, 1453, 'Shoes', 2, 2000, 'Delhi', '2024-05-11', 'UPI'),
(13, 1322, 'Mouse', 1, 650, 'Chennai', '2024-03-05', 'Net Banking'),
(14, 1784, 'Monitor', 1, 11000, 'Hyderabad', '2024-02-14', 'Debit Card'),
(15, 1920, 'Smartphone', 1, 22000, 'Bangalore', '2024-04-17', 'UPI'),
(16, 1209, 'Backpack', 2, 1400, 'Mumbai', '2024-05-01', 'Cash on Delivery'),
(17, 1999, 'Keyboard', 1, 850, 'Pune', '2024-06-28', 'Credit Card'),
(18, 1777, 'Watch', 1, 3500, 'Delhi', '2024-01-19', 'Debit Card'),
(19, 1888, 'T-shirt', 1, 450, 'Hyderabad', '2024-04-21', 'UPI'),
(20, 1666, 'Headphones', 2, 3000, 'Kolkata', '2024-02-23', 'Net Banking'),
(21, 1344, 'Laptop', 1, 52000, 'Delhi', '2024-05-15', 'Credit Card'),
(22, 1401, 'Smartphone', 1, 18500, 'Mumbai', '2024-06-06', 'Debit Card'),
(23, 1902, 'Shoes', 1, 1700, 'Hyderabad', '2024-01-27', 'UPI'),
(24, 1734, 'Keyboard', 1, 950, 'Chennai', '2024-03-14', 'Cash on Delivery'),
(25, 1997, 'Mouse', 1, 500, 'Bangalore', '2024-06-04', 'Net Banking'),
(26, 1490, 'Watch', 2, 2800, 'Pune', '2024-02-20', 'Credit Card'),
(27, 1555, 'Monitor', 1, 15000, 'Delhi', '2024-03-19', 'UPI'),
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(28, 1766, 'Laptop', 1, 58000, 'Chennai', '2024-04-25', 'Debit Card'),
(29, 1811, 'T-shirt', 2, 900, 'Hyderabad', '2024-05-30', 'Cash on Delivery'),
(30, 1943, 'Headphones', 1, 2400, 'Mumbai', '2024-06-18', 'UPI'),
(31, 1650, 'Laptop', 1, 62000, 'Bangalore', '2024-01-10', 'Credit Card'),
(32, 1743, 'Smartphone', 1, 19500, 'Delhi', '2024-02-13', 'Net Banking'),
(33, 1881, 'Shoes', 1, 1800, 'Chennai', '2024-03-08', 'UPI'),
(34, 1904, 'Monitor', 1, 13000, 'Hyderabad', '2024-04-14', 'Debit Card'),
(35, 1678, 'Mouse', 2, 750, 'Kolkata', '2024-05-06', 'Cash on Delivery'),
(36, 1799, 'Keyboard', 1, 920, 'Pune', '2024-06-20', 'UPI'),
(37, 1238, 'Backpack', 1, 1250, 'Mumbai', '2024-03-18', 'Credit Card'),
(38, 1439, 'T-shirt', 3, 1100, 'Delhi', '2024-04-08', 'Debit Card'),
(39, 1305, 'Headphones', 1, 2600, 'Hyderabad', '2024-05-13', 'Net Banking'),
(40, 1802, 'Watch', 1, 3200, 'Pune', '2024-06-17', 'Cash on Delivery'),
(41, 1995, 'Laptop', 1, 54000, 'Bangalore', '2024-02-21', 'UPI'),
(42, 1788, 'Smartphone', 2, 21000, 'Delhi', '2024-03-12', 'Credit Card'),
(43, 1622, 'Shoes', 1, 1900, 'Hyderabad', '2024-04-01', 'Debit Card'),
(44, 1504, 'Keyboard', 1, 880, 'Chennai', '2024-06-28', 'UPI'),
(45, 1894, 'Mouse', 1, 620, 'Mumbai', '2024-05-25', 'Net Banking'),
(46, 1347, 'Monitor', 1, 14000, 'Kolkata', '2024-02-17', 'Credit Card'),
(47, 1761, 'Watch', 2, 3300, 'Pune', '2024-03-03', 'Cash on Delivery'),
(48, 1528, 'T-shirt', 1, 500, 'Delhi', '2024-01-24', 'Debit Card'),
(49, 1450, 'Backpack', 2, 1500, 'Chennai', '2024-04-30', 'UPI'),
(50, 1925, 'Headphones', 1, 2800, 'Hyderabad', '2024-06-15', 'Net Banking'),
(51, 1289, 'Laptop', 1, 56000, 'Pune', '2024-06-01', 'Credit Card'),
(52, 1732, 'Smartphone', 1, 19000, 'Kolkata', '2024-05-12', 'UPI'),
(53, 1867, 'Shoes', 2, 1600, 'Delhi', '2024-04-09', 'Net Banking'),
(54, 1998, 'Mouse', 1, 700, 'Bangalore', '2024-02-11', 'Cash on Delivery'),
(55, 1408, 'Laptop', 1, 60000, 'Hyderabad', '2024-03-22', 'Debit Card'),
(56, 1366, 'Keyboard', 1, 1000, 'Chennai', '2024-01-30', 'UPI'),
(57, 1900, 'Monitor', 1, 12500, 'Delhi', '2024-05-05', 'Net Banking'),
(58, 1754, 'Watch', 2, 3100, 'Mumbai', '2024-06-02', 'Credit Card'),
(59, 1654, 'T-shirt', 1, 600, 'Pune', '2024-03-16', 'Cash on Delivery'),
(60, 1885, 'Backpack', 1, 1450, 'Hyderabad', '2024-02-19', 'Debit Card'),

select * from ecommerce_orders;

CREATE TABLE customers (
    CustomerID INT PRIMARY KEY,
    CustomerName VARCHAR(50),
    Email VARCHAR(100),
    Phone VARCHAR(15),
    City VARCHAR(50)
);

INSERT INTO customers (CustomerID, CustomerName, Email, Phone, City) VALUES
(1023, 'Rahul Sharma', 'rahul@gmail.com', '9876543210', 'Bangalore'),
(1542, 'Priya Singh', 'priya@gmail.com', '9823456712', 'Mumbai'),
```

(1891, 'Arjun Mehta', 'arjun@gmail.com', '9871203456', 'Delhi'),
(1755, 'Sneha Rao', 'sneha@gmail.com', '9850012345', 'Hyderabad'),
(1432, 'Kiran Kumar', 'kiran@gmail.com', '9845678912', 'Chennai'),
(1988, 'Varun Patel', 'varun@gmail.com', '9834561289', 'Pune'),
(1675, 'Anjali Verma', 'anjali@gmail.com', '9812345678', 'Kolkata'),
(1099, 'Rohit Shetty', 'rohit@gmail.com', '9890012345', 'Delhi'),
(1880, 'Sana Shaikh', 'sana@gmail.com', '9822003344', 'Bangalore'),
(1722, 'Abhishek Rao', 'abhishek@gmail.com', '9845672231', 'Mumbai'),
(1621, 'Nisha Jain', 'nisha@gmail.com', '9811122233', 'Pune'),
(1453, 'Vikram Reddy', 'vikram@gmail.com', '9870023456', 'Hyderabad'),
(1322, 'Ravi Kumar', 'ravi@gmail.com', '9867891234', 'Chennai'),
(1784, 'Asha Nair', 'asha@gmail.com', '9856789012', 'Delhi'),
(1920, 'Harish Gowda', 'harish@gmail.com', '9845612345', 'Bangalore'),
(1209, 'Mohan Das', 'mohan@gmail.com', '9871298765', 'Mumbai'),
(1999, 'Deepak Singh', 'deepak@gmail.com', '9834598761', 'Kolkata'),
(1777, 'Kavya Rao', 'kavya@gmail.com', '9812349087', 'Pune'),
(1888, 'Manoj Pillai', 'manoj@gmail.com', '9800123456', 'Hyderabad'),
(1666, 'Pooja Patil', 'pooja@gmail.com', '9876549900', 'Chennai');

select * from customers;

1.select * from ecommerce_orders where city = 'Delhi';

OrderID	CustomerID	Product	Quantity	Price	City	OrderDate	PaymentMethod
3	1891	Headphones	1	2500.00	Delhi	2024-01-18	Debit Card
8	1099	Backpack	1	1300.00	Delhi	2024-04-29	UPI
12	1453	Shoes	2	2000.00	Delhi	2024-05-11	UPI
18	1777	Watch	1	3500.00	Delhi	2024-01-19	Debit Card
21	1344	Laptop	1	52000.00	Delhi	2024-05-15	Credit Card
27	1555	Monitor	1	15000.00	Delhi	2024-03-19	UPI
32	1743	Smartphone	1	19500.00	Delhi	2024-02-13	Net Banking
38	1439	T-shirt	3	1100.00	Delhi	2024-04-08	Debit Card
42	1788	Smartphone	2	21000.00	Delhi	2024-03-12	Credit Card
48	1528	T-shirt	1	500.00	Delhi	2024-01-24	Debit Card
53	1867	Shoes	2	1600.00	Delhi	2024-04-09	Net Banking
57	1900	Monitor	1	12500.00	Delhi	2024-05-05	Net Banking

2.select * from ecommerce_orders where product = 'Shoes';

OrderID	CustomerID	Product	Quantity	Price	City	OrderDate	PaymentMethod
4	1755	Shoes	1	1500.00	Hyderabad	2024-03-25	Cash on Delivery
12	1453	Shoes	2	2000.00	Delhi	2024-05-11	UPI
23	1902	Shoes	1	1700.00	Hyderabad	2024-01-27	UPI
33	1881	Shoes	1	1800.00	Chennai	2024-03-08	UPI
43	1622	Shoes	1	1900.00	Hyderabad	2024-04-01	Debit Card
53	1867	Shoes	2	1600.00	Delhi	2024-04-09	Net Banking
65	1498	Shoes	1	1550.00	Pune	2024-03-29	Debit Card
76	1466	Shoes	2	1750.00	Chennai	2024-04-04	Debit Card
83	1655	Shoes	1	1450.00	Bangalore	2024-02-28	Cash on Delivery
97	1352	Shoes	1	1650.00	Kolkata	2024-05-07	UPI
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

3.SELECT
  Product,
  SUM(Quantity) AS TotalQuantity
FROM ecommerce_orders
GROUP BY Product;

Product	TotalQuantity
Laptop	13
Smartphone	13
Headphones	10
Shoes	13
Keyboard	10
Mouse	15
Monitor	10
Backpack	12
Watch	13
T-shirt	19

4.SELECT
  ecommerce_orders.OrderID,
  customers.CustomerName,
  ecommerce_orders.Product
FROM ecommerce_orders
INNER JOIN customers
ON ecommerce_orders.CustomerID = customers.CustomerID;

erID	CustomerName	Product
	Rahul Sharma	Laptop
	Priya Singh	Smartphone
	Arjun Mehta	Headphones
	Sneha Rao	Shoes
	Kiran Kumar	Keyboard
	Varun Patel	Mouse
	Anjali Verma	Monitor
	Rohit Shetty	Backpack
	Sana Shaikh	Watch
	Abhishek Rao	T-shirt
	Nisha Jain	Laptop
	Vikram Reddy	Shoes
	Ravi Kumar	Mouse
	Asha Nair	Monitor
	Harish Gowda	Smartphone

5.SELECT
  ecommerce_orders.OrderID,
  ecommerce_orders.CustomerID,
  customers.CustomerName,
  ecommerce_orders.Product
FROM ecommerce_orders
LEFT JOIN customers
ON ecommerce_orders.CustomerID = customers.CustomerID;

	OrderID	CustomerID	CustomerName	Product
▶	1	1023	Rahul Sharma	Laptop
	2	1542	Priya Singh	Smartphone
	3	1891	Arjun Mehta	Headphones
	4	1755	Sneha Rao	Shoes
	5	1432	Kiran Kumar	Keyboard
	6	1988	Varun Patel	Mouse
	7	1675	Anjali Verma	Monitor
	8	1099	Rohit Shetty	Backpack
	9	1880	Sana Shaikh	Watch
	10	1722	Abhishek Rao	T-shirt
	11	1621	Nisha Jain	Laptop
	12	1453	Vikram Reddy	Shoes
	13	1322	Ravi Kumar	Mouse
	14	1784	Asha Nair	Monitor
	15	1920	Harish Gowda	Smartphone

6.SELECT
   ecommerce_orders.OrderID,
   customers.CustomerName,
   ecommerce_orders.Product
FROM ecommerce_orders
RIGHT JOIN customers
ON ecommerce_orders.CustomerID = customers.CustomerID;

	OrderID	CustomerName	Product
▶	10	Abhishek Rao	T-shirt
	7	Anjali Verma	Monitor
	3	Arjun Mehta	Headphones
	14	Asha Nair	Monitor
	17	Deepak Singh	Keyboard
	15	Harish Gowda	Smartphone
	18	Kavya Rao	Watch
	5	Kiran Kumar	Keyboard
	19	Manoj Pillai	T-shirt
	16	Mohan Das	Backpack
	11	Nisha Jain	Laptop
	20	Pooja Patil	Headphones
	2	Priya Singh	Smartphone
	1	Rahul Sharma	Laptop
	13	Ravi Kumar	Mouse

7.SELECT CustomerName
FROM customers
WHERE CustomerID IN (
   SELECT CustomerID
   FROM ecommerce_orders
);

OrderID	CustomerName	Product
10	Abhishek Rao	T-shirt
7	Anjali Verma	Monitor
3	Arjun Mehta	Headphones
14	Asha Nair	Monitor
17	Deepak Singh	Keyboard
15	Harish Gowda	Smartphone
18	Kavya Rao	Watch
5	Kiran Kumar	Keyboard
19	Manoj Pillai	T-shirt
16	Mohan Das	Backpack
11	Nisha Jain	Laptop
20	Pooja Patil	Headphones
2	Priya Singh	Smartphone
1	Rahul Sharma	Laptop
13	Ravi Kumar	Mouse

8.SELECT COUNT(*) AS Total_Customers
FROM Customers;

Total_Customers
20

9.CREATE INDEX idx_customer_name
ON Customers (CustomerName);

SELECT *
FROM Customers
WHERE CustomerName = 'Mohan Das';

CustomerID	CustomerName	Email	Phone	City
1209	Mohan Das	mohan@gmail.com	9871298765	Mumbai
NULL	NULL	NULL	NULL	NULL