

MySQL

Create a database named ecommerce.

```
create database ecommerce;
```

```
ERROR 1044 (42000) at line 53: Access denied for user 'user_432t47ckq_432tyjbtv'@'%' to database 'ecommerce'
```

Create three tables: customers, orders, and products.

Insert some sample data into the tables.

```
CREATE TABLE customers (  
  cust_id INT AUTO_INCREMENT PRIMARY KEY,  
  cust_name VARCHAR(100),  
  cust_email VARCHAR(100),  
  cust_address VARCHAR(100)  
);  
CREATE TABLE orders (  
  order_id INT AUTO_INCREMENT PRIMARY KEY,  
  order_date DATE,  
  total_amount decimal(10,2),  
  cust_id INT,  
  foreign key (cust_id) references customers(cust_id)  
);  
CREATE TABLE products (  
  prod_id INT AUTO_INCREMENT PRIMARY KEY,  
  prod_name VARCHAR(100),  
  prod_price decimal(10,2),  
  prod_description VARCHAR(100)  
);  
INSERT INTO customers(cust_name,cust_email,cust_address) VALUES  
(  
'Ram','ram@gamil.com','Anna nagar,chennai'),  
(  
'Chand','chand@gamil.com','23,coimbatore'),  
(  
'Joy','joy@gamil.com','5th street,mumbai'),  
(  
'Sam','sam@gamil.com','Anna nagar,chennai');  
  
INSERT INTO orders(order_date,total_amount,cust_id) VALUES  
(  
'2024-11-23',100,1),  
(  
'2024-12-10',300,2),  
(  
'2024-9-9',200,1),  
(  
'2024-10-1',300,2),  
(  
'2022-4-1',250,3),  
(  
'2022-4-1',250,3),
```

```
('2023-6-7',130,4);
```

```
INSERT INTO products(prod_name,prod_price,prod_description) VALUES
("TV",25000,"Best TV"),
("Mobile",20000,"Best mobile"),
("Laptop",15000,"Best laptop"),
("AC",18000,"Best AC");
```

```
SELECT * FROM customers;
SELECT * FROM orders;
SELECT * FROM products;
```

cust_id	cust_name	cust_email	cust_address
1	Ram	ram@gamil.com	Anna nagar,chennai
2	Chand	chand@gamil.com	23,coimbatore
3	Joy	joy@gamil.com	5th street,mumbai
4	Sam	sam@gamil.com	Anna nagar,chennai

order_id	order_date	total_amount	cust_id
1	2024-11-23	100	1
2	2024-12-10	300	2
3	2024-09-09	200	1
4	2024-10-01	300	2

4	2024-10-01	300	2
5	2022-04-01	250	3
6	2022-04-01	250	3
7	2023-06-07	130	4

prod_id	prod_name	prod_price	prod_description
1	TV	25000.00	Best TV
2	Mobile	20000.00	Best mobile
3	Laptop	15000.00	Best laptop
4	AC	18000.00	Best AC

1. Retrieve all customers who have placed an order in the last 30 days

SELECT * FROM customers where cust_id in (select cust_id from orders where order_date BETWEEN NOW() - INTERVAL 30 DAY AND NOW());

cust_id	cust_name	cust_email	cust_address
1	Ram	ram@gamil.com	Anna nagar,chennai
2	Chand	chand@gamil.com	23,coimbatore

2. Get the total amount of all orders placed by each customer.

select cust_id,sum(total_amount) as total from orders GROUP by cust_id;

cust_id	total
1	300
2	600
3	500
4	130

3. Update the price of Product C to 45.00.

update products set prod_price = 45.00 where prod_name = 'TV';
select * from products;

prod_id	prod_name	prod_price	prod_description
1	TV	45.00	Best TV
2	Mobile	20000.00	Best mobile
3	Laptop	15000.00	Best laptop
4	AC	18000.00	Best AC

4. Add a new column discount to the products table.

```
ALTER TABLE products
ADD discount VARCHAR(20);
select * from products;
```

prod_id	prod_name	prod_price	prod_description	discount
1	TV	25000.00	Best TV	NULL
2	Mobile	20000.00	Best mobile	NULL
3	Laptop	15000.00	Best laptop	NULL
4	AC	18000.00	Best AC	NULL

5. Retrieve the top 3 products with the highest price.

```
select * from products order by prod_price DESC limit 3;
```

prod_id	prod_name	prod_price	prod_description
1	TV	25000.00	Best TV
2	Mobile	20000.00	Best mobile
4	AC	18000.00	Best AC

6. Get the names of customers who have ordered Product A.

```
select cust_name from customers where cust_id in (select prod_id from products where
prod_name = "Mobile");
```

cust_name
Chand

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

```
select customers.cust_name,orders.order_date
```

```

from customers
inner join
orders
ON
customers.cust_id = orders.cust_id;

```

cust_name	order_date
Ram	2024-11-23
Ram	2024-09-09
Chand	2024-12-10
Chand	2024-10-01
Joy	2022-04-01
Joy	2022-04-01
Sam	2023-06-07

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

```
select * from orders where total_amount > 150;
```

order_id	order_date	total_amount	cust_id
2	2024-12-10	300	2
3	2024-09-09	200	1
4	2024-10-01	300	2
5	2022-04-01	250	3
6	2022-04-01	250	3

9. Normalize the database by creating a separate table for order items and updating the orders table to reference the order_items table.

Before normalization:

```

create table order_items(
order_id INT,
order_details VARCHAR(100)
);

```

```

insert into order_items(order_id,order_details) VALUES
(1,"Best TV,Best mobile"),
(2,"Best AC,Best mobile");

```

```
select * from order_items;
```

order_id	order_details
1	Best TV,Best mobile
2	Best AC,Best mobile

After normalization:

```
create table order_items(  
order_id INT,  
order_details VARCHAR(100)  
);
```

```
insert into order_items(order_id,order_details) VALUES  
(1,"Best TV"),  
(1,"Best mobile"),  
(2,"Best mobile"),  
(2,"Best AC")  
;  
select * from order_items;
```

order_id	order_details
1	Best TV
1	Best mobile
2	Best mobile
2	Best AC

```
select orders.order_id,orders.total_amount,order_items.order_details  
from orders, order_items  
where orders.order_id = order_items.order_id;
```

order_id	total_amount	order_details
1	100	Best TV
1	100	Best mobile
2	300	Best mobile
2	300	Best AC

10. Retrieve the average total of all orders.

select avg(total_amount) as average from orders;

average

218.5714
