

Instructions:

- This assignment is designed to test your knowledge of MySQL database concepts in the context of a stock management system for an e-commerce platform.
- Write SQL queries for each task and provide explanations where necessary.
- Submit your assignment as a single SQL script file.

Task 1: Create a Database Create a new MySQL database named `ecommerce_stock_db`.

QUERY- `CREATE DATABASE ecommerce_stock_db ;`

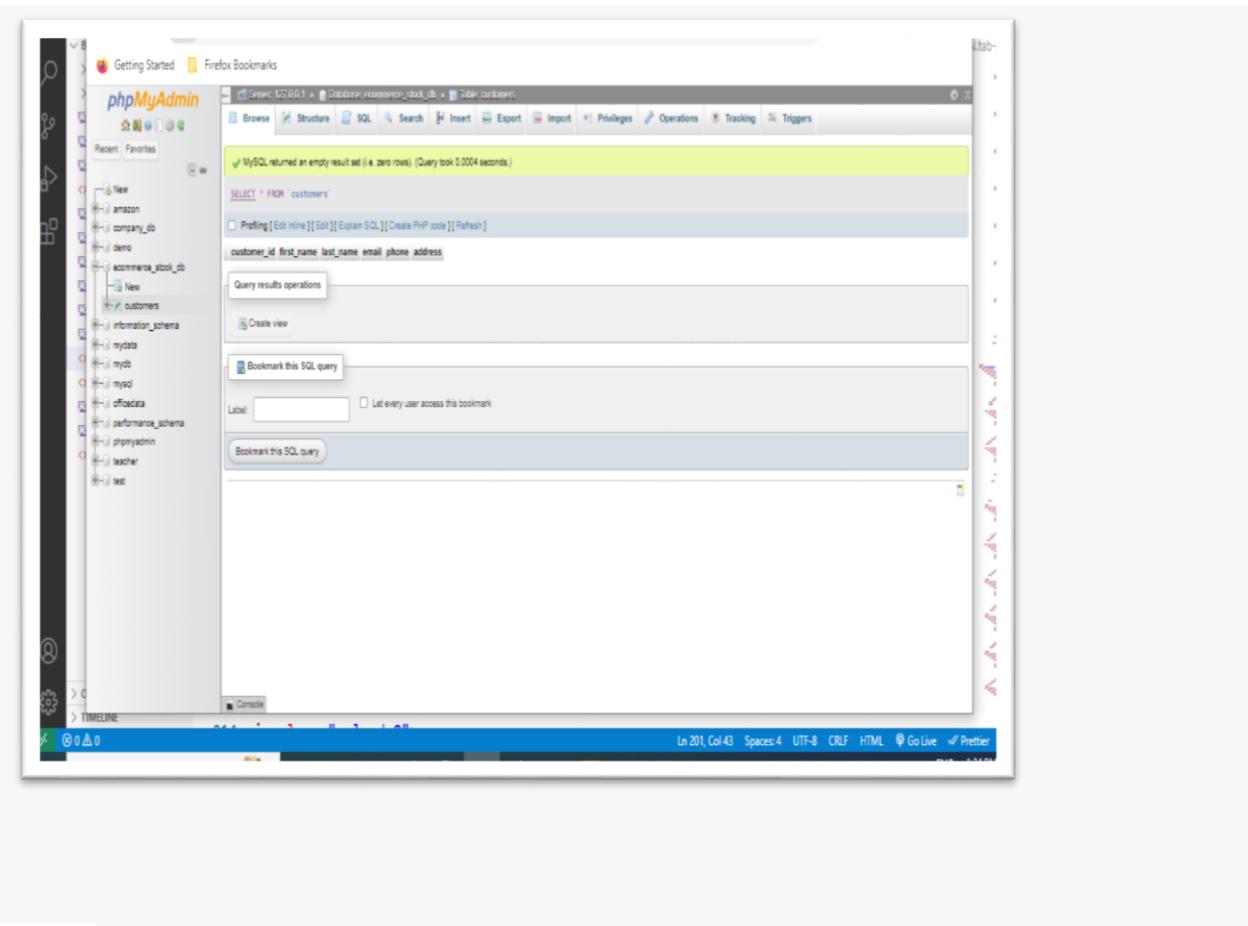
Task 2: Create Tables Inside the `ecommerce_stock_db`, create the following tables:

1. **customers table with the following columns:**

- `customer_id` (Primary Key, Auto Increment)
- `first_name`
- `last_name`
- `email`
- `Phone`
- `address`

QUERY-2

```
CREATE TABLE customers(
    customer_id int NOT NULL AUTO_INCREMENT,
    first_name varchar(50) null,
    last_name varchar(50) null,
    email varchar(50) null,
    phone int null,
    address text null,
    PRIMARY KEY(customer_id))
```

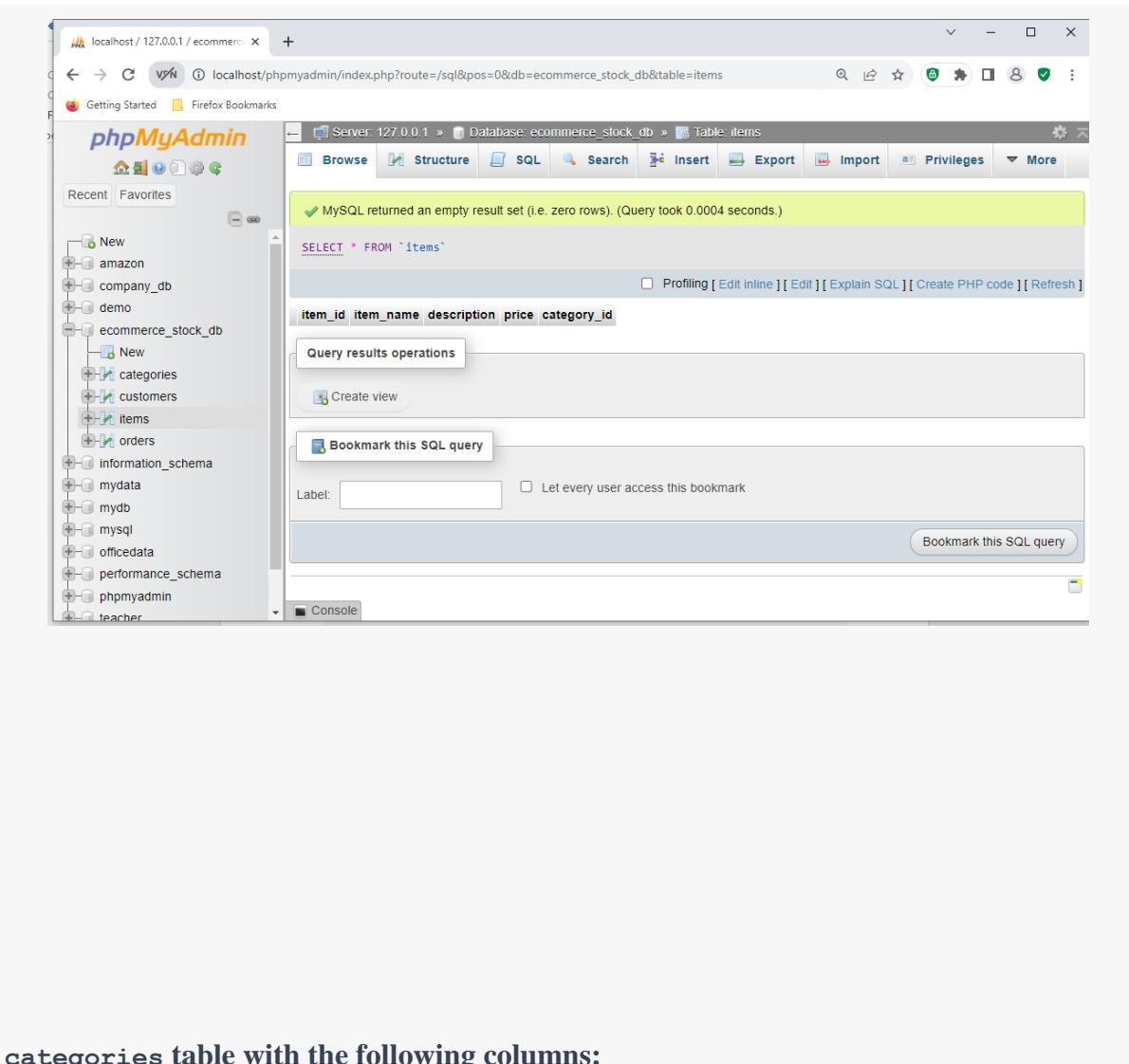


2- items table with the following columns:

- item_id (Primary Key, Auto Increment)
- item_name
- description
- price
- stock_quantity
- category_id (Foreign Key referencing category_id in the categories table)

QUERY-

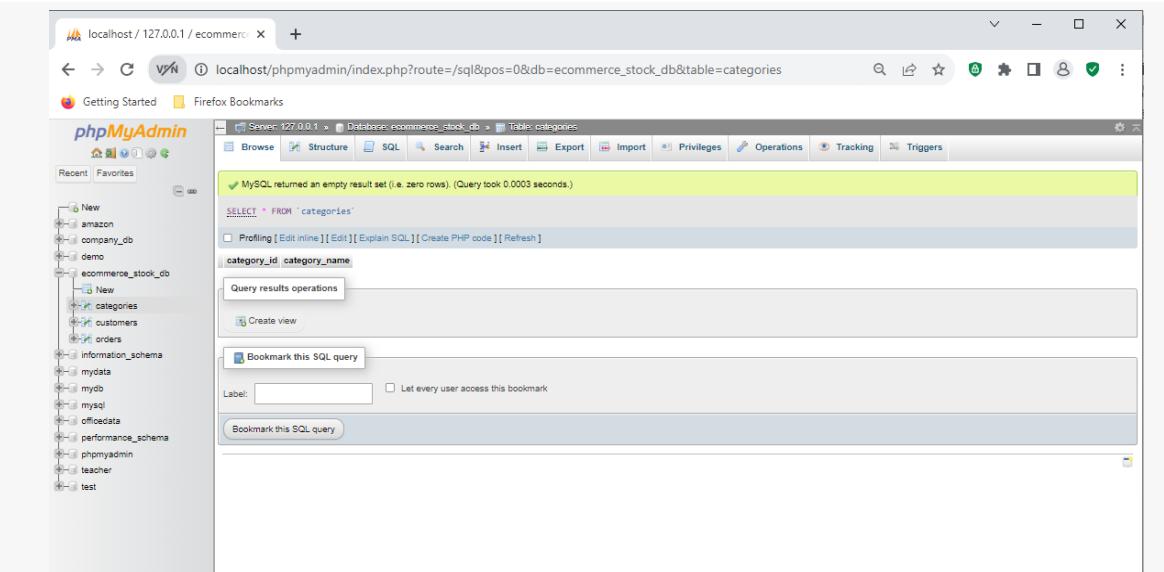
```
CREATE TABLE items(  
item_id int not null AUTO_INCREMENT,  
item_name varchar(200) not null,  
description text,  
price float not null,  
category_id int not null,  
PRIMARY KEY (item_id),  
FOREIGN KEY(category_id) REFERENCES categories(category_id))
```



3- categories table with the following columns:

- **category_id (Primary Key, Auto Increment)**
- **category_name**

QUERY- CREATE TABLE categories(
category_id int not null AUTO_INCREMENT,
category_name varchar(200) not null,
PRIMARY KEY(category_id))



4-orders table with the following columns:

- **order_id** (Primary Key, Auto Increment)
- **customer_id** (Foreign Key referencing **customer_id** in the **customers** table)
- **order_date**
- **total_amount**

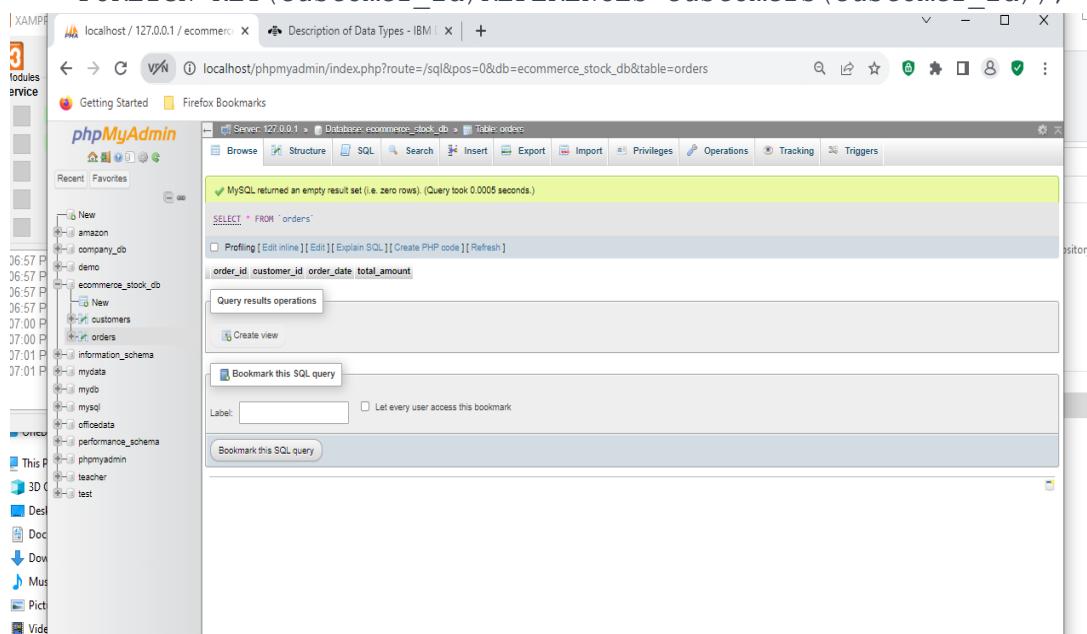
QUERY- CREATE TABLE orders (

```
order_id int not null AUTO_INCREMENT,
```

```

customer_id int not null,
order_date DATE not null,
total_amount float not null,
PRIMARY KEY(order_id),
FOREIGN KEY(customer_id) REFERENCES customers(customer_id));

```



Task 3: Insert Data Insert at least 10 records into the `customers` table, 20 records into the `items` table, 5 records into the `categories` table, and 30 records into the `orders` table. Ensure that items are assigned to categories and orders are associated with customers and items.

QUERY- Inserted 10 records into the customer table

```
INSERT INTO `customers`(`first_name`, `last_name`, `email`, `phone`, `address`)
```

```
VALUES
```

```
('rakhi','saini','rakhi@gmail.com','099988856','delhi'),
```

```
('riya','tiwari','riya@gmail.com','099988878','mumbai'),
```

```
('rohit','singh','rohit@gmail.com','099988822','jammu'),
```

```
('mohit','singh','mohit@gmail.com','099988833','madhya pradesh'),
```

```
('sagar','gupta','sagar@gmail.com','099988844','uttarpradesh'),
```

```
('john','doe','john@gmail.com','099988855','kerala'),
```

```
('mario','mark','mario@gmail.com','099988866','tamilnadu'),
```

```
('james','joe','james@gmail.com','099988877','bengaluru'),
```

```
('dev','tiwari','dev@gmail.com','099988888','rajasthan'),
```

```
('sachin','dubey','sachin@gmail.com','099988899','maharashtra');
```

The screenshot shows the phpMyAdmin interface for the 'ecommerce_stock_db' database. The 'customers' table is selected. The table structure includes columns for customer_id, first_name, last_name, email, phone, and address. Ten records are displayed, showing data such as names, emails, and phone numbers across various Indian states.

	customer_id	first_name	last_name	email	phone	address
<input type="checkbox"/>	1	rakhi	saini	rakhi@gmail.com	99988856	delhi
<input type="checkbox"/>	2	riya	tiwari	riya@gmail.com	99988878	mumbai
<input type="checkbox"/>	3	rohit	singh	rohit@gmail.com	99988822	jammu
<input type="checkbox"/>	4	mohit	singh	mohit@gmail.com	99988833	madhya pradesh
<input type="checkbox"/>	5	sagar	gupta	sagar@gmail.com	99988844	uttarpradesh
<input type="checkbox"/>	6	john	doe	john@gmail.com	99988855	kerala
<input type="checkbox"/>	7	mario	mark	mario@gmail.com	99988866	tamilnadu
<input type="checkbox"/>	8	james	joe	james@gmail.com	99988877	bengaluru
<input type="checkbox"/>	9	dev	tiwari	dev@gmail.com	99988888	rajasthan
<input type="checkbox"/>	10	sachin	dubey	sachin@gmail.com	99988899	maharashtra

2. Inserted 5 records into the categories table

Query- `INSERT INTO `categories`(`category_name`)`

VALUES

`('Hardware'),`

`('Software'),`

`('memoryunit'),`

`('Input unit'),`

`('output unit')`

localhost/phpmyadmin/index.php?route=/sql&pos=0&db=ecommerce_stock_db&table=categories

Getting Started Firefox Bookmarks

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- ecommerce_stock_db
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- mydb
- mysql
- officedata
- performance_schema
- phpmyadmin

Server: 127.0.0.1 » Database: ecommerce_stock_db » Table: categories

Browse Structure SQL Search Insert Export Import Privileges More

Showing rows 0 - 4 (total, Query took 0.0005 seconds.)

SELECT * FROM `categories`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

category_id	category_name
1	Hardware
2	Software
3	memoryunit
4	Input unit
5	output unit

Check all With selected: Edit Copy Delete Export

Console

Inserted 30 records into orders table-

localhost/phpmyadmin/index.php?route=/sql&pos=0&db=ecommerce_stock_db&table=orders

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- performance_schema
- phpmyadmin
- teacher
- test

Server: 127.0.0.1 » Database: ecommerce_stock_db » Table: orders

Browse Structure SQL Search Insert Export Import Privileges Operations More

order_id	customer_id	order_date	total_amount
91	2	2020-09-09	20
92	4	2020-09-12	21
93	6	2020-09-20	22
94	7	2020-09-25	23
95	3	2020-09-30	24
96	1	2020-10-05	25
97	8	2020-10-15	26
98	9	2020-10-20	27
109	10	2020-10-25	28
166	1	2020-10-30	29
167	2	2020-11-06	30
168	3	2020-11-11	31
169	4	2020-11-14	32
170	8	2020-11-19	33
171	8	2020-11-24	34
172	9	2020-11-29	35
173	9	2020-12-05	36
174	7	2020-12-10	37

Console

Inserted 20 records into item table-

The screenshot shows the phpMyAdmin interface with the following details:

- Server:** 127.0.0.1
- Database:** ecommerce_stock_db
- Table:** items

The items table has the following structure and data:

	item_id	item_name	description	price	category_id	stock_quantity
<input type="checkbox"/>	67	motherboard	item1	2.345	1	2300
<input type="checkbox"/>	68	keyboard	item2	5.678	2	2500
<input type="checkbox"/>	69	mouse	item3	1.345	3	3500
<input type="checkbox"/>	72	drive	item4	4.678	4	3900
<input type="checkbox"/>	73	CD Drive	item5	3.345	5	4000
<input type="checkbox"/>	79	Printer	item6	6.678	5	4200
<input type="checkbox"/>	80	zipdrive	item7	7.345	3	4700
<input type="checkbox"/>	81	monitor	item8	8.678	1	5000
<input type="checkbox"/>	82	speaker	item9	9.345	2	5300
<input type="checkbox"/>	83	DVDdrive	item10	10.678	5	5700
<input type="checkbox"/>	84	Refill cartridge	item11	11.345	4	5900
<input type="checkbox"/>	85	cpu	item12	12.678	5	6000
<input type="checkbox"/>	86	memory	item13	13.345	3	6200
<input type="checkbox"/>	87	RAM	item14	14.678	4	6500
<input type="checkbox"/>	88	rom	item15	15.345	3	6700
<input type="checkbox"/>	89	laptop	item16	16.678	1	6900
<input type="checkbox"/>	90	desktop	item17	17.345	1	70000

Task 4: Update Data Write a SQL query to update the stock quantity of a specific item in the items table.

QUERY- UPDATE items set stock_quantity ='3477' WHERE item_id=81;

The screenshot shows the phpMyAdmin interface with the following details:

- Server:** 127.0.0.1
- Database:** ecommerce_stock_db
- Table:** items

The left sidebar shows the database structure with the following databases listed:
New, amazon, company_db, demo, ecommerce_stock_db (selected), New, categories, customers, items (selected), orders, information_schema, mydata, mydb, mysql, officedata, performance_schema, phpmyadmin, teacher, test.

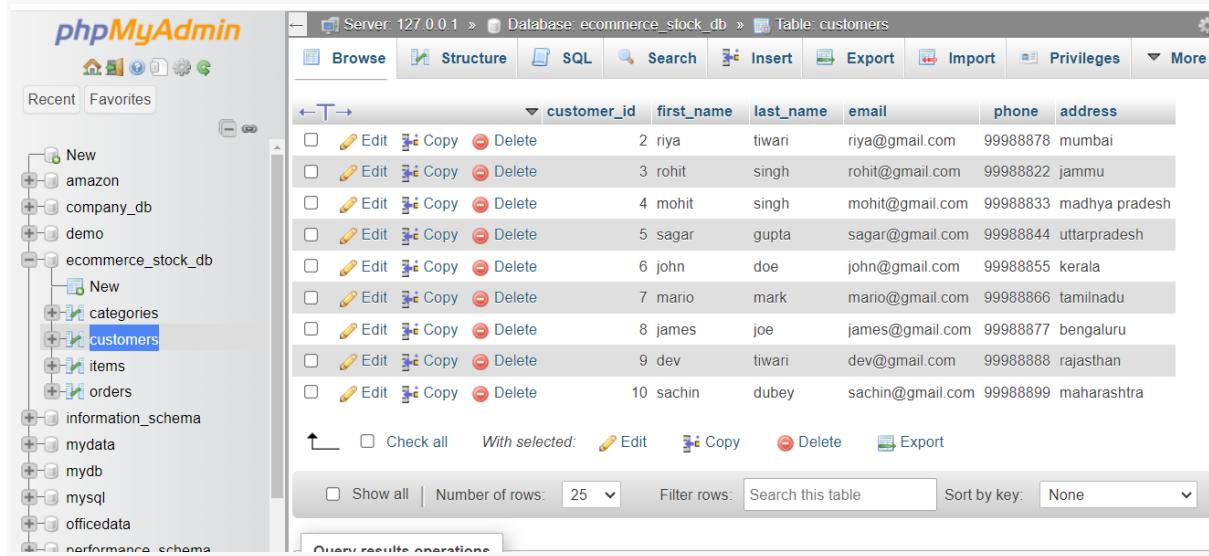
The main area displays the contents of the items table:

	item_id	item_name	description	price	category_id	stock_quantity
<input type="checkbox"/>	67	motherboard	item1	2.345	1	2300
<input type="checkbox"/>	68	keyboard	item2	5.678	2	2500
<input type="checkbox"/>	69	mouse	item3	1.345	3	3500
<input type="checkbox"/>	72	drive	item4	4.678	4	3900
<input type="checkbox"/>	73	CD Drive	item5	3.345	5	4000
<input type="checkbox"/>	79	Printer	item6	6.678	5	4200
<input type="checkbox"/>	80	zipdrive	item7	7.345	3	4700
<input type="checkbox"/>	81	monitor	item8	8.678	1	3477
<input type="checkbox"/>	82	speaker	item9	9.345	2	5300
<input type="checkbox"/>	83	DVDdrive	item10	10.678	5	5700
<input type="checkbox"/>	84	Refill cartridge	item11	11.345	4	5900
<input type="checkbox"/>	85	cpu	item12	12.678	5	6000
<input type="checkbox"/>	86	memory	item13	13.345	3	6200
<input type="checkbox"/>	87	RAM	item14	14.678	4	6500
<input type="checkbox"/>	88	rom	item15	15.345	3	6700
<input type="checkbox"/>	89	laptop	item16	16.678	1	6900
<input type="checkbox"/>	90	desktop	item17	17.345	1	70000

Task 5: Delete Data Write a SQL query to delete a customer from the `customers` table and all related orders (if any) in the database.

QUERY- DELETE FROM `orders` WHERE customer_id=1;

DELETE FROM `customers` WHERE customer_id=1;



		customer_id	first_name	last_name	email	phone	address
<input type="checkbox"/>		2	riya	tiwari	riya@gmail.com	99988878	mumbai
<input type="checkbox"/>		3	rohit	singh	rohit@gmail.com	99988822	jammu
<input type="checkbox"/>		4	mohit	singh	mohit@gmail.com	99988833	madhya pradesh
<input type="checkbox"/>		5	sagar	gupta	sagar@gmail.com	99988844	uttarpradesh
<input type="checkbox"/>		6	john	doe	john@gmail.com	99988855	kerala
<input type="checkbox"/>		7	mario	mark	mario@gmail.com	99988866	tamilnadu
<input type="checkbox"/>		8	james	joe	james@gmail.com	99988877	bengaluru
<input type="checkbox"/>		9	dev	tiwari	dev@gmail.com	99988888	rajasthan
<input type="checkbox"/>		10	sachin	dubey	sachin@gmail.com	99988899	maharashtra



		order_id	customer_id	order_date	total_amount
<input type="checkbox"/>		91	2	2020-09-09	20
<input type="checkbox"/>		92	4	2020-09-12	21
<input type="checkbox"/>		93	6	2020-09-20	22
<input type="checkbox"/>		94	7	2020-09-25	23
<input type="checkbox"/>		95	3	2020-09-30	24
<input type="checkbox"/>		97	8	2020-10-15	26
<input type="checkbox"/>		98	9	2020-10-20	27
<input type="checkbox"/>		109	10	2020-10-25	28
<input type="checkbox"/>		167	2	2020-11-06	30
<input type="checkbox"/>		168	3	2020-11-11	31
<input type="checkbox"/>		169	4	2020-11-14	32
<input type="checkbox"/>		170	8	2020-11-19	33
<input type="checkbox"/>		171	8	2020-11-24	34
<input type="checkbox"/>		172	9	2020-11-29	35

Task 6: Retrieve Item Information Write an SQL query to retrieve information about an item, including its name, description, price, and category name, for a specific item.

```
SELECT items.item_name, items.description, items.price, categories.category_name
```

```
FROM items
```

```
JOIN categories ON items.category_id = categories.category_id
```

```
WHERE items.item_id = 69;
```

The screenshot shows the phpMyAdmin interface for a MySQL database named 'ecommerce_stock_db'. The 'items' table is selected. The SQL query executed is:

```
SELECT items.item_name, items.description, items.price, categories.category_name
FROM items
JOIN categories
ON items.category_id = categories.category_id
WHERE items.item_id = 69;
```

The results of the query are displayed in a table:

item_name	description	price	category_name
mouse	item3	1.345	memoryunit

Below the table, there are 'Query results operations' buttons for Print, Copy to clipboard, Export, Display chart, and Create view.

Task 7: Calculate Total Stock Value Write an SQL query to calculate the total value of all items in stock, considering the price and stock quantity.

QUERY- `SELECT SUM(price * stock_quantity) AS total_stock_value`

`FROM items;`

The screenshot shows the phpMyAdmin interface. On the left, the database structure is visible, including the 'ecommerce_stock_db' database which contains tables like 'categories', 'customers', 'items', and 'orders'. The main area shows a query result for a SELECT statement:

```
SELECT SUM(price * stock_quantity) AS total_stock_value FROM items;
```

The result of the query is displayed as a single row:

total_stock_value
7197932.820616722

Below the result, there are various operations available: Print, Copy to clipboard, Export, Display chart, Create view, and Console.

Task 8: Retrieve Customer Order History Write an SQL query to retrieve the order history for a specific customer, including order dates, item names, quantities, and total amounts spent.

QUERY-

```
SELECT orders.order_date, items.item_name, items.stock_quantity, orders.total_amount
```

```
FROM orders
```

```
JOIN items ON items.item_id = orders.item_id
```

```
WHERE orders.customer_id = 5;
```

The screenshot shows the phpMyAdmin interface with the 'ecommerce_stock_db' database selected. The 'orders' table is displayed in the central pane. The table has four columns: 'order_date', 'item_name', 'stock_quantity', and 'total_amount'. The data is as follows:

order_date	item_name	stock_quantity	total_amount
2020-12-18	motherboard	2300	39
2020-12-19	motherboard	2300	40
2021-01-05	motherboard	2300	47
2020-12-18	keyboard	2500	39
2020-12-19	keyboard	2500	40
2021-01-05	keyboard	2500	47
2020-12-18	mouse	3500	39
2020-12-19	mouse	3500	40
2021-01-05	mouse	3500	47
2020-12-18	drive	3900	39
2020-12-19	drive	3900	40
2021-01-05	drive	3900	47
2020-12-18	CD Drive	4000	39
2020-12-19	CD Drive	4000	40
2021-01-05	CD Drive	4000	47
2020-12-18	Printer	4200	39
2020-12-19	Printer	4200	40

Task 9: Implement ORDER BY DESC Write an SQL query to retrieve a list of all tables, ordering them in descending order by the `primary_key` or `id` column.

QUERY- `SELECT * FROM Customers`

`ORDER BY customer_id DESC;`

	customer_id	first_name	last_name	email	phone	address
1	10	sachin	dubey	sachin@gmail.com	99988899	maharashtra
2	9	dev	tiwari	dev@gmail.com	99988888	rajasthan
3	8	james	joe	james@gmail.com	99988877	bengaluru
4	7	mario	mark	mario@gmail.com	99988866	tamilnadu
5	6	john	doe	john@gmail.com	99988855	kerala
6	5	sagar	gupta	sagar@gmail.com	99988844	uttarpradesh
7	4	mohit	singh	mohit@gmail.com	99988833	madhya pradesh
8	3	rohit	singh	rohit@gmail.com	99988822	jammu
9	2	riya	tiwari	riya@gmail.com	99988878	mumbai

Query- `SELECT * FROM orders`

`ORDER BY customer_id DESC;`

	order_id	customer_id	order_date	total_amount
1	109	10	2020-10-25	28
2	172	9	2020-11-29	35
3	173	9	2020-12-05	36
4	98	9	2020-10-20	27
5	179	9	2020-12-22	42
6	97	8	2020-10-15	26
7	181	8	2020-12-26	44
8	170	8	2020-11-19	33
9	171	8	2020-11-24	34
10	94	7	2020-09-25	23
11	175	7	2020-12-15	38
12	174	7	2020-12-10	37
13	182	7	2020-12-30	45
14	185	6	2021-01-10	48

Query- SELECT * FROM items

ORDER BY item_id DESC;

The screenshot shows the phpMyAdmin interface for the 'ecommerce_stock_db' database. The left sidebar lists various databases and tables. The current table is 'items'. The table structure includes columns: item_id, item_name, description, price, category_id, and stock_quantity. The data shows 15 rows of items, ordered by item_id in descending order.

	item_id	item_name	description	price	category_id	stock_quantity
93	videocard	item20		20.678	1	98000
92	soundcard	item19		19.345	4	88000
91	tab	item18		18.678	2	78000
90	desktop	item17		17.345	1	70000
89	laptop	item16		16.678	1	6900
88	rom	item15		15.345	3	6700
87	RAM	item14		14.678	4	6500
86	memory	item13		13.345	3	6200
85	cpu	item12		12.678	5	6000
84	Refill cartridge	item11		11.345	4	5900
83	DVDdrive	item10		10.678	5	5700
82	speaker	item9		9.345	2	5300
81	monitor	item8		8.678	1	3477
80	zipdrive	item7		7.345	3	4700

Query- SELECT * FROM `categories`

ORDER BY category_id DESC;

The screenshot shows the phpMyAdmin interface for the 'ecommerce_stock_db' database. The left sidebar lists various databases and tables. The current table is 'categories'. The table structure includes columns: category_id and category_name. The data shows 5 rows of categories, ordered by category_id in descending order.

	category_id	category_name
5	output unit	
4	Input unit	
3	memoryunit	
2	Software	
1	Hardware	

Task 10: Backup and Restore Export a backup of the `ecommerce_stock_db` database to a SQL file. Then, write SQL statements to restore the database from the backup fileSubmission:

- Save your SQL script with a meaningful filename (e.g., `ecommerce_assignment.sql`).
- Submit the SQL script by the due date specified.