# **ASSIGNMENT**

# **TECHSHOP, AN ELECTRONIC GADGET SHOP**

## **PERSIS FANNY ELOITE M**

**TASK 1:**

**QUESTION 1: Create the database named "TechShop"**

mysql> show databases;

+--------------------+

| Database |

+--------------------+

| fanny |

| information\_schema |

| mysql |

| performance\_schema |

| sys |

| techshop |

| testdb |

+--------------------+

7 rows in set (0.00 sec)

mysql> use techshop;

Database changed

**QUESTION 2: Define the schema for the Customers, Products, Orders, OrderDetails and Inventory tables based on the provided schema.**

mysql> CREATE table customers(

-> customerid int auto\_increment PRIMARY KEY,

-> firstname varchar(50) NOT NULL,

-> lastname varchar(50) NOT NULL,

-> email varchar(100) UNIQUE NOT NULL,

-> phone varchar(15) UNIQUE NOT NULL,

-> address text NOT NULL

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE table products(

-> productid int auto\_increment PRIMARY KEY,

-> productname varchar(100) NOT NULL,

-> description text NOT NULL,

-> price decimal(10,2) NOT NULL

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> CREATE table orders(

-> orderid int auto\_increment PRIMARY KEY,

-> customerid int NOT NULL,

-> orderdate datetime DEFAULT current\_timestamp NOT NULL,

-> totalamount decimal(10,2) NOT NULL,

-> FOREIGN KEY(customerid) REFERENCES customers(customerid) ON DE

LETE CASCADE

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> CREATE table orderdetails(

-> orderdetailid int auto\_increment PRIMARY KEY,

-> orderid int NOT NULL,

-> productid int NOT NULL,

-> quantity int NOT NULL,

-> FOREIGN KEY(orderid) REFERENCES orders(orderid) ON DELETE CASC

ADE,

-> FOREIGN KEY(productid) REFERENCES products(productid) ON DELET

E CASCADE

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE table inventory(

-> inventoryid int auto\_increment PRIMARY KEY,

-> productid int NOT NULL,

-> quantityinstock int NOT NULL,

-> laststockupdate timestamp DEFAULT current\_timestamp ON UPDATE

current\_timestamp NOT NULL,

-> FOREIGN KEY (productid) REFERENCES products(productid) ON DELE

TE CASCADE

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> desc customers;

+------------+--------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+------------+--------------+------+-----+---------+----------------+

| customerid | int | NO | PRI | NULL | auto\_increment |

| firstname | varchar(50) | NO | | NULL | |

| lastname | varchar(50) | NO | | NULL | |

| email | varchar(100) | NO | UNI | NULL | |

| phone | varchar(15) | NO | UNI | NULL | |

| address | text | NO | | NULL | |

+------------+--------------+------+-----+---------+----------------+

6 rows in set (0.00 sec)

mysql> desc products;

+-------------+---------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra

|

+-------------+---------------+------+-----+---------+----------------+

| productid | int | NO | PRI | NULL | auto\_increment |

| productname | varchar(100) | NO | | NULL |

|

| description | text | NO | | NULL |

|

| price | decimal(10,2) | NO | | NULL |

|

+-------------+---------------+------+-----+---------+----------------+

4 rows in set (0.00 sec)

mysql> desc orders;

+-------------+---------------+------+-----+-------------------+-------------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+---------------+------+-----+-------------------+-------------------+

| orderid | int | NO | PRI | NULL | auto\_increment |

| customerid | int | NO | MUL | NULL | |

| orderdate | datetime | NO | | CURRENT\_TIMESTAMP | DEFAULT\_GENERATED |

| totalamount | decimal(10,2) | NO | | NULL | |

+-------------+---------------+------+-----+-------------------+-------------------+

4 rows in set (0.00 sec)

mysql> desc orderdetails;

+---------------+------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+------+------+-----+---------+----------------+

| orderdetailid | int | NO | PRI | NULL | auto\_increment |

| orderid | int | NO | MUL | NULL | |

| productid | int | NO | MUL | NULL | |

| quantity | int | NO | | NULL | |

+---------------+------+------+-----+---------+----------------+

4 rows in set (0.00 sec)

mysql> desc inventory;

+-----------------+-----------+------+-----+-------------------+-----------------------------------------------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+-----------+------+-----+-------------------+-----------------------------------------------+

| inventoryid | int | NO | PRI | NULL | auto\_increment |

| productid | int | NO | MUL | NULL | |

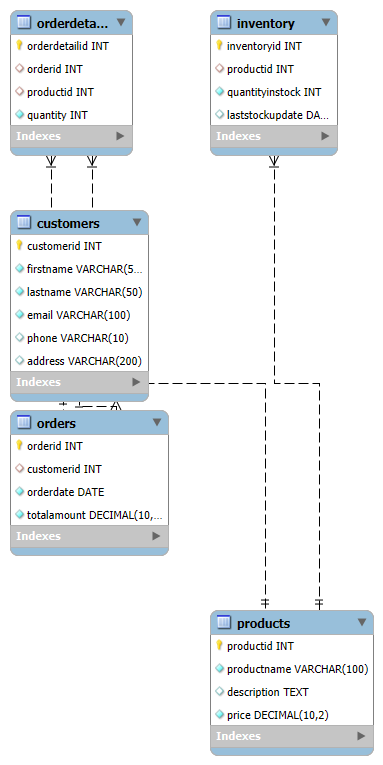
| quantityinstock | int | NO | | NULL | |

| laststockupdate | timestamp | NO | | CURRENT\_TIMESTAMP | DEFAULT\_GENERATED on update CURRENT\_TIMESTAMP |

+-----------------+-----------+------+-----+-------------------+-----------------------------------------------+

4 rows in set (0.00 sec)

**QUESTION 3: Create an ERD (Entity Relationship Diagram) for the database.**



**QUESTION 4: Create appropriate Primary Key and Foreign Key constraints for referential integrity.**

mysql> CREATE table customers(

-> customerid int auto\_increment PRIMARY KEY,

-> firstname varchar(50) NOT NULL,

-> lastname varchar(50) NOT NULL,

-> email varchar(100) UNIQUE NOT NULL,

-> phone varchar(15) UNIQUE NOT NULL,

-> address text NOT NULL

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE table products(

-> productid int auto\_increment PRIMARY KEY,

-> productname varchar(100) NOT NULL,

-> description text NOT NULL,

-> price decimal(10,2) NOT NULL

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> CREATE table orders(

-> orderid int auto\_increment PRIMARY KEY,

-> customerid int NOT NULL,

-> orderdate datetime DEFAULT current\_timestamp NOT NULL,

-> totalamount decimal(10,2) NOT NULL,

-> FOREIGN KEY(customerid) REFERENCES customers(customerid) ON DE

LETE CASCADE

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> CREATE table orderdetails(

-> orderdetailid int auto\_increment PRIMARY KEY,

-> orderid int NOT NULL,

-> productid int NOT NULL,

-> quantity int NOT NULL,

-> FOREIGN KEY(orderid) REFERENCES orders(orderid) ON DELETE CASC

ADE,

-> FOREIGN KEY(productid) REFERENCES products(productid) ON DELET

E CASCADE

-> );

Query OK, 0 rows affected (0.04 sec)

mysql> CREATE table inventory(

-> inventoryid int auto\_increment PRIMARY KEY,

-> productid int NOT NULL,

-> quantityinstock int NOT NULL,

-> laststockupdate timestamp DEFAULT current\_timestamp ON UPDATE

current\_timestamp NOT NULL,

-> FOREIGN KEY (productid) REFERENCES products(productid) ON DELE

TE CASCADE

-> );

Query OK, 0 rows affected (0.03 sec)

mysql> SHOW tables;

+--------------------+

| Tables\_in\_techshop |

+--------------------+

| customers |

| inventory |

| orderdetails |

| orders |

| products |

+--------------------+

5 rows in set (0.01 sec)

mysql> desc customers;

+------------+--------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+------------+--------------+------+-----+---------+----------------+

| customerid | int | NO | PRI | NULL | auto\_increment |

| firstname | varchar(50) | NO | | NULL | |

| lastname | varchar(50) | NO | | NULL | |

| email | varchar(100) | NO | UNI | NULL | |

| phone | varchar(15) | NO | UNI | NULL | |

| address | text | NO | | NULL | |

+------------+--------------+------+-----+---------+----------------+

6 rows in set (0.00 sec)

mysql> desc products;

+-------------+---------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra

|

+-------------+---------------+------+-----+---------+----------------+

| productid | int | NO | PRI | NULL | auto\_increment |

| productname | varchar(100) | NO | | NULL |

|

| description | text | NO | | NULL |

|

| price | decimal(10,2) | NO | | NULL |

|

+-------------+---------------+------+-----+---------+----------------+

4 rows in set (0.00 sec)

mysql> desc orders;

+-------------+---------------+------+-----+-------------------+-------------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+---------------+------+-----+-------------------+-------------------+

| orderid | int | NO | PRI | NULL | auto\_increment |

| customerid | int | NO | MUL | NULL | |

| orderdate | datetime | NO | | CURRENT\_TIMESTAMP | DEFAULT\_GENERATED |

| totalamount | decimal(10,2) | NO | | NULL | |

+-------------+---------------+------+-----+-------------------+-------------------+

4 rows in set (0.00 sec)

mysql> desc orderdetails;

+---------------+------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+------+------+-----+---------+----------------+

| orderdetailid | int | NO | PRI | NULL | auto\_increment |

| orderid | int | NO | MUL | NULL | |

| productid | int | NO | MUL | NULL | |

| quantity | int | NO | | NULL | |

+---------------+------+------+-----+---------+----------------+

4 rows in set (0.00 sec)

mysql> desc inventory;

+-----------------+-----------+------+-----+-------------------+-----------------------------------------------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+-----------+------+-----+-------------------+-----------------------------------------------+

| inventoryid | int | NO | PRI | NULL | auto\_increment |

| productid | int | NO | MUL | NULL | |

| quantityinstock | int | NO | | NULL | |

| laststockupdate | timestamp | NO | | CURRENT\_TIMESTAMP | DEFAULT\_GENERATED on update CURRENT\_TIMESTAMP |

+-----------------+-----------+------+-----+-------------------+-----------------------------------------------+

4 rows in set (0.00 sec)

**QUESTION 5: Insert at least 10 sample records into each of the following tables.**

**a. Customers**

**b. Products**

**c. Orders**

**d. OrderDetails**

**e. Inventory**

mysql> INSERT into customers(firstname, lastname, email, phone, address) VALUES

-> ('John', 'Down', 'john@gmail.com', '1234567890', '123 Main St Banglore'),

-> ('Persis', 'Eloite', 'persis@gmail.com', '2345678901', '456 Erran St Chennai '),

-> ('Bob', 'Johnson', 'bob@yahoo.com', '3456789012', '789 Nagar St Pune'),

-> ('Ally', 'Brown', 'ally@outlook.com', '4567890123', '159 Pine St Kerela'),

-> ('Charles', 'David', 'charles@gmail.com', '5678901234', '753 Birch St Mumbai '),

-> ('Evangelin', 'Miller', 'eva@gmail.com', '6789012345', '951 Cedar St Chennai '),

-> ('Daniel', 'Wilson', 'daniel@gmail.com', '7890123456', '357 Maple St Mumbai'),

-> ('Sophia', 'Mordecai', 'sophia@gmail.com', '8901234567', '852 Crosswood St Delhi'),

-> ('Fanny', 'Anderson', 'fanny@yahoo.com', '9012345678', '654 Redwood St Goa '),

-> ('Olivia', 'Harris', 'olivia@gmail.com', '0123456789', '321 Cypress St Telangana');

Query OK, 10 rows affected (0.02 sec)

Records: 10 Duplicates: 0 Warnings: 0

mysql> INSERT into products(productname, description, price) VALUES

-> ('Laptop', 'Dell Inspiron 15', 799.99),

-> ('Smartphone', 'Samsung Galaxy S22', 999.99),

-> ('Tablet', 'Apple iPad Pro', 1099.99),

-> ('Headphones', 'Sony WH-1000XM4', 299.99),

-> ('Keyboard', 'Mechanical Keyboard', 89.99),

-> ('Mouse', 'Wireless Mouse', 49.99),

-> ('Monitor', '27-inch 4K Monitor', 349.99),

-> ('Printer', 'HP LaserJet Pro', 199.99),

-> ('External SSD', 'Samsung T7 1TB', 129.99),

-> ('Router', 'Netgear Nighthawk', 179.99);

Query OK, 10 rows affected (0.01 sec)

Records: 10 Duplicates: 0 Warnings: 0

mysql> INSERT into orders(customerid, totalamount) VALUES

-> (1, 1299.98),

-> (2, 999.99),

-> (3, 349.99),

-> (4, 1099.99),

-> (5, 299.99),

-> (6, 199.99),

-> (7, 89.99),

-> (8, 49.99),

-> (9, 179.99),

-> (10, 129.99);

Query OK, 10 rows affected (0.01 sec)

Records: 10 Duplicates: 0 Warnings: 0

mysql> INSERT into orderdetails(orderid, productid, quantity) VALUES

-> (1, 1, 1),

-> (1, 3, 1),

-> (2, 2, 1),

-> (3, 7, 1),

-> (4, 3, 1),

-> (5, 4, 1),

-> (6, 8, 1),

-> (7, 5, 1),

-> (8, 6, 1),

-> (9, 10, 1);

Query OK, 10 rows affected (0.01 sec)

Records: 10 Duplicates: 0 Warnings: 0

mysql> INSERT into inventory(productid, quantityinstock) VALUES

-> (1, 50),

-> (2, 30),

-> (3, 20),

-> (4, 40),

-> (5, 60),

-> (6, 70),

-> (7, 25),

-> (8, 35),

-> (9, 50),

-> (10, 30);

Query OK, 10 rows affected (0.01 sec)

Records: 10 Duplicates: 0 Warnings: 0

mysql> SELECT \* FROM customers;

+------------+-----------+----------+-------------------+------------+--------------------------+

| customerid | firstname | lastname | email | phone | address |

+------------+-----------+----------+-------------------+------------+--------------------------+

| 1 | John | Down | john@gmail.com | 1234567890 | 123 Main St Banglore |

| 2 | Persis | Eloite | persis@gmail.com | 2345678901 | 456 Erran St Chennai |

| 3 | Bob | Johnson | bob@yahoo.com | 3456789012 | 789 Nagar St Pune |

| 4 | Ally | Brown | ally@outlook.com | 4567890123 | 159 Pine St Kerela |

| 5 | Charles | David | charles@gmail.com | 5678901234 | 753 Birch St Mumbai |

| 6 | Evangelin | Miller | eva@gmail.com | 6789012345 | 951 Cedar St Chennai |

| 7 | Daniel | Wilson | daniel@gmail.com | 7890123456 | 357 Maple St Mumbai |

| 8 | Sophia | Mordecai | sophia@gmail.com | 8901234567 | 852 Crosswood St Delhi |

| 9 | Fanny | Anderson | fanny@yahoo.com | 9012345678 | 654 Redwood St Goa |

| 10 | Olivia | Harris | olivia@gmail.com | 0123456789 | 321 Cypress St Telangana |

+------------+-----------+----------+-------------------+------------+--------------------------+

10 rows in set (0.00 sec)

mysql> SELECT \* FROM products;

+-----------+--------------+---------------------+---------+

| productid | productname | description | price |

+-----------+--------------+---------------------+---------+

| 1 | Laptop | Dell Inspiron 15 | 799.99 |

| 2 | Smartphone | Samsung Galaxy S22 | 999.99 |

| 3 | Tablet | Apple iPad Pro | 1099.99 |

| 4 | Headphones | Sony WH-1000XM4 | 299.99 |

| 5 | Keyboard | Mechanical Keyboard | 89.99 |

| 6 | Mouse | Wireless Mouse | 49.99 |

| 7 | Monitor | 27-inch 4K Monitor | 349.99 |

| 8 | Printer | HP LaserJet Pro | 199.99 |

| 9 | External SSD | Samsung T7 1TB | 129.99 |

| 10 | Router | Netgear Nighthawk | 179.99 |

+-----------+--------------+---------------------+---------+

10 rows in set (0.01 sec)

mysql> SELECT \* FROM orders;

+---------+------------+---------------------+-------------+

| orderid | customerid | orderdate | totalamount |

+---------+------------+---------------------+-------------+

| 1 | 1 | 2025-03-26 00:48:51 | 1299.98 |

| 2 | 2 | 2025-03-26 00:48:51 | 999.99 |

| 3 | 3 | 2025-03-26 00:48:51 | 349.99 |

| 4 | 4 | 2025-03-26 00:48:51 | 1099.99 |

| 5 | 5 | 2025-03-26 00:48:51 | 299.99 |

| 6 | 6 | 2025-03-26 00:48:51 | 199.99 |

| 7 | 7 | 2025-03-26 00:48:51 | 89.99 |

| 8 | 8 | 2025-03-26 00:48:51 | 49.99 |

| 9 | 9 | 2025-03-26 00:48:51 | 179.99 |

| 10 | 10 | 2025-03-26 00:48:51 | 129.99 |

+---------+------------+---------------------+-------------+

10 rows in set (0.00 sec)

mysql> SELECT \* FROM orderdetails;

+---------------+---------+-----------+----------+

| orderdetailid | orderid | productid | quantity |

+---------------+---------+-----------+----------+

| 1 | 1 | 1 | 1 |

| 2 | 1 | 3 | 1 |

| 3 | 2 | 2 | 1 |

| 4 | 3 | 7 | 1 |

| 5 | 4 | 3 | 1 |

| 6 | 5 | 4 | 1 |

| 7 | 6 | 8 | 1 |

| 8 | 7 | 5 | 1 |

| 9 | 8 | 6 | 1 |

| 10 | 9 | 10 | 1 |

+---------------+---------+-----------+----------+

10 rows in set (0.00 sec)

mysql> SELECT \* FROM inventory;

+-------------+-----------+-----------------+---------------------+

| inventoryid | productid | quantityinstock | laststockupdate |

+-------------+-----------+-----------------+---------------------+

| 1 | 1 | 50 | 2025-03-26 00:57:20 |

| 2 | 2 | 30 | 2025-03-26 00:57:20 |

| 3 | 3 | 20 | 2025-03-26 00:57:20 |

| 4 | 4 | 40 | 2025-03-26 00:57:20 |

| 5 | 5 | 60 | 2025-03-26 00:57:20 |

| 6 | 6 | 70 | 2025-03-26 00:57:20 |

| 7 | 7 | 25 | 2025-03-26 00:57:20 |

| 8 | 8 | 35 | 2025-03-26 00:57:20 |

| 9 | 9 | 50 | 2025-03-26 00:57:20 |

| 10 | 10 | 30 | 2025-03-26 00:57:20 |

+-------------+-----------+-----------------+---------------------+

10 rows in set (0.00 sec)