

SQL Assignment

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Problem 1: Online Bookstore Management

Design and query a database for an online bookstore.

Create database Bookstore

```
CREATE DATABASE Bookstore;  
USE Bookstore;
```

Create database

```
mysql> use bookstore;  
Database changed  
mysql> INSERT INTO Book VALUES(1,'The Guide to SQL', 'Chetan Bhagat', 350.0);  
Query OK, 1 row affected (0.03 sec)  
  
mysql> INSERT INTO Book VALUES(2, 'Unknown Realms', 'Unknown', 150.00);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> INSERT INTO Book VALUES(3, 'Data Science 101', 'Anjali Mehta', 499.99);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> INSERT INTO Book VALUES(4, 'Python for Beginners', 'Ravi Kumar', 299.00);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> INSERT INTO Book VALUES(5, 'Marketing Magic', 'Alok Sharma', 180.00);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> INSERT INTO Book VALUES(6, 'The Business Guide', 'Chetan Bhagat', 450.00);  
Query OK, 1 row affected (0.01 sec)  
  
mysql>
```

1: Create Tables

```
CREATE TABLE Book (  
    book_id INT PRIMARY KEY,  
    title VARCHAR(100),  
    author VARCHAR(50),  
    price DECIMAL(6,2)  
);  
  
CREATE TABLE Customer (  
    customer_id INT PRIMARY KEY,  
    name VARCHAR(50),  
    city VARCHAR(50)  
);  
  
CREATE TABLE OrderTable (  
    order_id INT PRIMARY KEY,  
    customer_id INT,  
    book_id INT,  
    quantity INT,  
    total_price DECIMAL(6,2)  
);
```

```

    order_id INT PRIMARY KEY,
    order_date DATE,
    customer_id INT,
    FOREIGN KEY (customer_id) REFERENCES Customer(customer_id)
);

CREATE TABLE OrderDetails (
    detail_id INT PRIMARY KEY,
    order_id INT,
    book_id INT,
    quantity INT,
    FOREIGN KEY (order_id) REFERENCES OrderTable(order_id),
    FOREIGN KEY (book_id) REFERENCES Book(book_id)
);

```

Create Tables

```

mysql> SELECT * FROM OrderDetails;
+-----+-----+-----+-----+
| detail_id | order_id | book_id | quantity |
+-----+-----+-----+-----+
| 1 | 101 | 1 | 2 |
| 2 | 101 | 3 | 1 |
| 3 | 102 | 2 | 1 |
| 4 | 103 | 4 | 3 |
| 5 | 104 | 5 | 2 |
| 6 | 104 | 6 | 1 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> UPDATE Book SET price = price * 1.15 WHERE price < 200;
Query OK, 2 rows affected (0.01 sec)
Rows matched: 2 Changed: 2 Warnings: 0

mysql> SELECT * FROM Book;
+-----+-----+-----+-----+
| book_id | title | author | price |
+-----+-----+-----+-----+
| 1 | The Guide to SQL | Chetan Bhagat | 350.00 |
| 2 | Unknown Realms | Unknown | 172.50 |
| 3 | Data Science 101 | Anjali Mehta | 499.99 |
| 4 | Python for Beginners | Ravi Kumar | 299.00 |
| 5 | Marketing Magic | Alok Sharma | 207.00 |
| 6 | The Business Guide | Chetam Bhagat | 450.00 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM Book WHERE author = 'UNKNOWN';
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails ('bookstore`.`orderde
bfk_2` FOREIGN KEY (`book_id`) REFERENCES `book` (`book_id`))
mysql> DELETE FROM OrderDetails WHERE book_id IN(SELECT book_id FROM Book WHERE author= 'UNKNOWN');

```

2: Insert Sample Data

```

INSERT INTO Book VALUES
(1, 'Half_Girlfriend', 'Chetan_Bhagat', 250.00),
(2, 'Life's Amazing Secrets', 'Gaur Gopal Das', 180.00),
(3, 'Think Like a Monk', 'Jay Shetty', 300.00),
(4, 'India Travel Guide', 'Lonely Planet', 450.00),
(5, 'The 3 Mistakes of My Life', 'Chetan Bhagat', 190.00),
(6, 'Wings of Fire', 'A. P. J. Abdul Kalam', 320.00);

```

Insert Customers

```
INSERT INTO Customer VALUES
(1, 'Ravi_Kumar', 'Ahmedabad'),
(2, 'Sneha_Patel', 'Surat'),
(3, 'Arjun_Mehta', 'Baroda'),
(4, 'Priya_Sharma', 'Rajkot'),
(5, 'Karan_Desai', 'Anand');
```

Insert Orders

```
INSERT INTO OrderTable VALUES
(101, '2025-08-01', 1),
(102, '2025-08-05', 2),
(103, '2025-08-10', 3),
(104, '2025-08-15', 4);
```

Insert Order Details

```
INSERT INTO OrderDetails VALUES
(1, 101, 1, 2),
(2, 101, 2, 1),
(3, 102, 3, 1),
(4, 103, 4, 1),
(5, 104, 5, 3),
(6, 104, 6, 1);
```

Insert values in table

```
mysql> DELETE FROM Book WHERE author = 'UNKNOWN';
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails ('bookstore`.`orderdetails`, CONSTRAINT `orderdetails_ibfk_2` FOREIGN KEY (`book_id`) REFERENCES `book` (`book_id`))
mysql> DELETE FROM OrderDetails WHERE book_id IN(SELECT book_id FROM Book WHERE author= 'UNKNOWN');
Query OK, 1 row affected (0.02 sec)

mysql> DELETE FROM Book WHERE author = 'UNKNOWN';
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM OrderDetails;
+-----+-----+-----+-----+
| detail_id | order_id | book_id | quantity |
+-----+-----+-----+-----+
| 1         | 101      | 1       | 2         |
| 2         | 101      | 3       | 1         |
| 4         | 103      | 4       | 1         |
| 5         | 104      | 5       | 3         |
| 6         | 104      | 6       | 1         |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> DELETE FROM Book WHERE author = 'Unknown';
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM Book;
+-----+-----+-----+-----+
| book_id | title           | author      | price |
+-----+-----+-----+-----+
| 1       | The Guide to SQL | Chetan Bhagat | 350.00 |
| 3       | Data Science 101 | Anjali Mehta | 499.99 |
| 4       | Python for Beginners | Ravi Kumar | 299.00 |
| 5       | Marketing Magic  | Alok Sharma | 207.00 |
| 6       | The Business Guide | Chetan Bhagat | 450.00 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM Customer WHERE city LIKE 'A%'
-> ;
+-----+-----+-----+
| customer_id | name | city |
+-----+-----+-----+
| 1           | Mahek | Ahmedabad |
+-----+-----+-----+
```

3: Increase Price of Books Below 200 by 15%

```
UPDATE Book
SET price = price * 1.15
WHERE price < 200;
```

```
mysql> use bookstore;
Database changed
mysql> INSERT INTO Book VALUES(1,'The Guide to SQL', 'Chetan Bhagat', 350.0);
Query OK, 1 row affected (0.03 sec)

mysql> INSERT INTO Book VALUES(2, 'Unknown Realms', 'Unknown', 150.00);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Book VALUES(3, 'Data Science 101', 'Anjali Mehta', 499.99);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Book VALUES(4, 'Python for Beginners', 'Ravi Kumar', 299.00);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Book VALUES(5, 'Marketing Magic', 'Alok Sharma', 180.00);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Book VALUES(6, 'The Business Guide', 'Chetam Bhagat', 450.00);
Query OK, 1 row affected (0.01 sec)

mysql>
```

4: Delete Books by Author 'Unknown'

```
DELETE FROM Book
WHERE author = 'Unknown';
```

```
mysql> SELECT * FROM OrderDetails;
+-----+-----+-----+-----+
| detail_id | order_id | book_id | quantity |
+-----+-----+-----+-----+
| 1 | 101 | 1 | 2 |
| 2 | 101 | 3 | 1 |
| 3 | 102 | 2 | 1 |
| 4 | 103 | 4 | 3 |
| 5 | 104 | 5 | 2 |
| 6 | 104 | 6 | 1 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> UPDATE Book SET price = price * 1.15 WHERE price < 200;
Query OK, 2 rows affected (0.01 sec)
Rows matched: 2 Changed: 2 Warnings: 0

mysql> SELECT * FROM Book;
+-----+-----+-----+-----+
| book_id | title | author | price |
+-----+-----+-----+-----+
| 1 | The Guide to SQL | Chetan Bhagat | 350.00 |
| 2 | Unknown Realms | Unknown | 172.50 |
| 3 | Data Science 101 | Anjali Mehta | 499.99 |
| 4 | Python for Beginners | Ravi Kumar | 299.00 |
| 5 | Marketing Magic | Alok Sharma | 207.00 |
| 6 | The Business Guide | Chetam Bhagat | 450.00 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM Book WHERE author = 'UNKNOWN';
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails ('bookstore`.`orderdetails`, CONSTRAINT `bfk_2` FOREIGN KEY (`book_id`) REFERENCES `book` (`book_id`))
mysql> DELETE FROM OrderDetails WHERE book_id IN(SELECT book_id FROM Book WHERE author= 'UNKNOWN');
```

5: Display Customers from Cities Starting with 'A'

```
SELECT * FROM Customer
WHERE city LIKE 'A%';
```

```
mysql> DELETE FROM Book WHERE author = 'UNKNOWN';
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails ('bookstore`.`orderdetails`, CONSTRAINT `orderdetails_ibfk_2` FOREIGN KEY (`book_id`) REFERENCES `book` (`book_id`))
mysql> DELETE FROM OrderDetails WHERE book_id IN(SELECT book_id FROM Book WHERE author= 'UNKNOWN');
Query OK, 1 row affected (0.02 sec)

mysql> DELETE FROM Book WHERE author = 'UNKNOWN';
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM OrderDetails;
+-----+-----+-----+-----+
| detail_id | order_id | book_id | quantity |
+-----+-----+-----+-----+
| 1         | 101      | 1       | 2         |
| 2         | 101      | 3       | 1         |
| 4         | 103      | 4       | 3         |
| 5         | 104      | 5       | 2         |
| 6         | 104      | 6       | 1         |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> DELETE FROM Book WHERE author = 'Unknown';
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM Book;
+-----+-----+-----+-----+
| book_id | title           | author      | price |
+-----+-----+-----+-----+
| 1       | The Guide to SQL | Chetan Bhagat | 350.00 |
| 3       | Data Science 101 | Anjali Mehta | 499.99 |
| 4       | Python for Beginners | Ravi Kumar | 299.00 |
| 5       | Marketing Magic | Alok Sharma | 207.00 |
| 6       | The Business Guide | Chetan Bhagat | 450.00 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM Customer WHERE city LIKE 'A%'
-> ;
+-----+-----+-----+
| customer_id | name | city |
+-----+-----+-----+
| 1           | Mahek | Ahmedabad |
+-----+-----+-----+
```

6: Find Books Containing Word 'Guide'

```
SELECT * FROM Book
WHERE title LIKE '%Guide%';
```

```
MySQL 8.0 Command Line Cli
mysql> SELECT * FROM Customer WHERE city LIKE 'A%'
-> ;
+-----+-----+-----+
| customer_id | name | city |
+-----+-----+-----+
| 1           | Mahek | Ahmedabad |
| 3           | Akshee | Agra |
+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> SELECT * FROM Book WHERE title LIKE '%Guide%';
+-----+-----+-----+-----+
| book_id | title           | author      | price |
+-----+-----+-----+-----+
| 1       | The Guide to SQL | Chetan Bhagat | 350.00 |
| 6       | The Business Guide | Chetan Bhagat | 450.00 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> UPDATE Customer SET city = 'Delhi' WHERE name = 'Nandini';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM Customer;
+-----+-----+-----+
| customer_id | name | city |
+-----+-----+-----+
| 1           | Mahek | Ahmedabad |
| 2           | Nandini | Delhi |
| 3           | Akshee | Agra |
| 4           | Ayushri | Mumbai |
| 5           | Sana | Kyoto |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM Book WHERE price BETWEEN 300 AND 500;
+-----+-----+-----+-----+
| book_id | title           | author      | price |
+-----+-----+-----+-----+
| 1       | The Guide to SQL | Chetan Bhagat | 350.00 |
| 3       | Data Science 101 | Anjali Mehta | 499.99 |
| 6       | The Business Guide | Chetan Bhagat | 450.00 |
+-----+-----+-----+-----+
```

7: Change City of Customer 'Nandini' to 'Delhi'

```
UPDATE Customer
SET city = 'Hyderabad';
```

```
WHERE name = 'Ravi_Kumar';
```

```
mysql> SELECT * FROM Book;
+-----+-----+-----+-----+
| book_id | title          | author      | price |
+-----+-----+-----+-----+
| 1       | The Guide to SQL | Chetan Bhagat | 350.00 |
| 2       | Unknown Realms  | Unknown      | 150.00 |
| 3       | Data Science 101 | Anjali Mehta  | 499.99 |
| 4       | Python for Beginners | Ravi Kumar  | 299.00 |
| 5       | Marketing Magic  | Alok Sharma   | 180.00 |
| 6       | The Business Guide | Chetan Bhagat | 450.00 |
+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> SELECT * FROM Customer;
+-----+-----+-----+
| customer_id | name      | city      |
+-----+-----+-----+
| 1           | Mahek     | Ahmedabad |
| 2           | Nandini   | Jaipur    |
| 3           | Alsheeh   | Agra      |
| 4           | Ayushri   | Mumbai    |
| 5           | Sana      | Kyoto     |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM OrderTable;
+-----+-----+-----+
| order_id | order_date | customer_id |
+-----+-----+-----+
| 101      | 2025-08-20 | 1           |
| 102      | 2025-08-21 | 2           |
| 103      | 2025-08-22 | 3           |
| 104      | 2025-08-23 | 4           |
+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> SELECT * FROM OrderDetails;
+-----+-----+-----+-----+
| detail_id | order_id | book_id | quantity |
+-----+-----+-----+-----+
| 1         | 101     | 1       | 2         |
| 2         | 101     | 3       | 1         |
| 3         | 102     | 2       | 1         |
| 4         | 103     | 4       | 3         |
| 5         | 104     | 5       | 2         |
| 6         | 104     | 6       | 1         |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> |
```

8: List All Books with Price Between 300 and 500

```
SELECT * FROM Book
WHERE price BETWEEN 300 AND 500;
```

```
mysql> SELECT * FROM book;
```

book_id	title	author	price
1	The Guide to SQL	Chetan Bhagat	350.00
2	Unknown Realms	Unknown	150.00
3	Data Science 101	Anjali Mehta	499.99
4	Python for Beginners	Ravi Kumar	299.00
5	Marketing Magic	Alok Sharma	180.00
6	The Business Guide	Chetam Bhagat	450.00

```
6 rows in set (0.01 sec)
```

```
mysql> SELECT * FROM Customer;
```

customer_id	name	city
1	Mahek	Ahmedabad
2	Nandini	Jaipur
3	Akshee	Agra
4	Ayushri	Mumbai
5	Sana	Kyoto

```
5 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM OrderTable;
```

order_id	order_date	customer_id
101	2025-08-20	1
102	2025-08-21	2
103	2025-08-22	3
104	2025-08-23	4

```
4 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM OrderDetails;
```

detail_id	order_id	book_id	quantity
1	101	1	2
2	101	3	1
3	102	2	1
4	103	4	3
5	104	5	2
6	104	6	1

```
6 rows in set (0.00 sec)
```

```
mysql> |
```

9: Add New Column stock_quantity to Book Table

```
ALTER TABLE Book
ADD stock_quantity INT;
```

10: Update Stock Quantity = 50 for Books by Chetan Bhagat

```
UPDATE Book
SET stock_quantity = 50
WHERE author = 'Chetan Bhagat';
```

Queries of 9 and 10 both

```
mysql> SELECT * FROM Book WHERE price BETWEEN 300 AND 500;
+-----+-----+-----+-----+
| book_id | title           | author      | price |
+-----+-----+-----+-----+
| 1       | The Guide to SQL | Chetan Bhagat | 350.00 |
| 3       | Data Science 101 | Anjali Mehta  | 499.99 |
| 6       | The Business Guide | Chetan Bhagat | 450.00 |
+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> ALTER TABLE Book ADD stock_quantity INTEGER;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'TABLE Book ADD stock_quantity INTEGER' at line 1
mysql> ALTER TABLE Book ADD stock_quantity INTEGER;
Query OK, 0 rows affected (0.12 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> DESCRIBE Book;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| book_id    | int           | NO   | PRI | NULL    |       |
| title      | varchar(100)  | YES  |     | NULL    |       |
| author     | varchar(50)   | YES  |     | NULL    |       |
| price      | decimal(6,2)  | YES  |     | NULL    |       |
| stock_quantity | int          | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.04 sec)

mysql> UPDATE Book SET stock_quantity = 50 WHERE author = 'Chetan Bhagat';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM Book WHERE author = 'Chetan Bhagat';
+-----+-----+-----+-----+-----+
| book_id | title           | author      | price | stock_quantity |
+-----+-----+-----+-----+-----+
| 1       | The Guide to SQL | Chetan Bhagat | 350.00 | 50             |
+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> |
```