## CREATE DATABASE

CREATE DATABASE bookstore;

```
mysql> CREATE DATABASE bookstore;
Query OK, 1 row affected (0.00 sec)
```

## USE DATABASE

USE bookstore;

```
mysql> USE bookstore;
Database changed
```

## CREATE TABLE Publisher

CREATE TABLE Publisher(
        Publisher_ID VARCHAR(100) NOT NULL PRIMARY KEY,
        Publisher_Name VARCHAR(100) NOT NULL,
        Publisher_Address VARCHAR(100) NOT NULL,
        Publisher_Phone VARCHAR(100)
);

```
mysql> CREATE TABLE Publisher(
    -> Publisher_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Publisher_Name VARCHAR(100) NOT NULL,
    -> Publisher_Address VARCHAR(100) NOT NULL,
    -> Publisher_Phone VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Author

CREATE TABLE Author(
        Author_ID VARCHAR(100) NOT NULL PRIMARY KEY,
        Author_Name VARCHAR(100) NOT NULL,
        Author_Address VARCHAR(100)
);

```
mysql> CREATE TABLE Author(
    -> Author_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Author_Name VARCHAR(100) NOT NULL,
    -> Author_Address VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Book

CREATE TABLE Book(
       Book_ISBN VARCHAR(100) NOT NULL PRIMARY KEY,
       Author_ID VARCHAR(100) NOT NULL,
       FOREIGN KEY(Author_ID) REFERENCES Author(Author_ID),
       Publisher_ID VARCHAR(100) NOT NULL,
       FOREIGN KEY(Publisher_ID) REFERENCES Publisher(Publisher_ID),
       Book_Year INT,
       Title VARCHAR(100) NOT NULL,
       Price NUMERIC(19,2) NOT NULL
);

```
mysql> CREATE TABLE Book(
    -> Book_ISBN VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Author_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Author_ID) REFERENCES Author(Author_ID),
    -> Publisher_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Publisher_ID) REFERENCES Publisher(Publisher_ID),
    -> Book_Year INT,
    -> Title VARCHAR(100) NOT NULL,
    -> Price NUMERIC(19,2) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Customer

CREATE TABLE Customer(
       Customer_Email VARCHAR(100) NOT NULL PRIMARY KEY,
       Customer_Name VARCHAR(100),
       Customer_Phone VARCHAR(100) NOT NULL,
       Customer_Address VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE Customer(
    -> Customer_Email VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Customer_Name VARCHAR(100),
    -> Customer_Phone VARCHAR(100) NOT NULL,
    -> Customer_Address VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE ShoppingBasket

CREATE TABLE ShoppingBasket(
        ShoppingBasket_ID INT PRIMARY KEY AUTO_INCREMENT,
        Customer_Email VARCHAR(100),
        FOREIGN KEY(Customer_Email) REFERENCES Customer(Customer_Email)
);

```
mysql> CREATE TABLE ShoppingBasket(
    -> ShoppingBasket_ID INT PRIMARY KEY AUTO_INCREMENT,
    -> Customer_Email VARCHAR(100),
    -> FOREIGN KEY(Customer_Email) REFERENCES Customer(Customer_Email)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE ShoppingBasket_Book

CREATE TABLE ShoppingBasket_Book(
        ShoppingBasket_ID INT NOT NULL,
        FOREIGN KEY(ShoppingBasket_ID) REFERENCES
ShoppingBasket(ShoppingBasket_ID),

        Book_ISBN VARCHAR(100) NOT NULL,
        FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
        PRIMARY KEY(ShoppingBasket_ID,Book_ISBN),
        CountSBB INT
);

```
mysql> CREATE TABLE ShoppingBasket_Book(
    -> ShoppingBasket_ID INT NOT NULL,
    -> FOREIGN KEY(ShoppingBasket_ID) REFERENCES ShoppingBasket(ShoppingBasket_ID),
    -> Book_ISBN VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
    -> PRIMARY KEY(ShoppingBasket_ID,Book_ISBN),
    -> CountSBB INT
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE OnlineBookstore

CREATE TABLE OnlineBookstore(
        Bookstore_Code VARCHAR(100) NOT NULL PRIMARY KEY,
        Bookstore_Address VARCHAR(100),
        Bookstore_Phone VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE OnlineBookstore(
    -> Bookstore_Code VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Bookstore_Address VARCHAR(100),
    -> Bookstore_Phone VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Warehouse

CREATE TABLE Warehouse(
        Warehouse_Code INT NOT NULL PRIMARY KEY,
        Bookstore_Code VARCHAR(100),
        FOREIGN KEY(Bookstore_Code) REFERENCES
OnlineBookstore(Bookstore_Code),
        Warehouse_Phone VARCHAR(100),
        Warehouse_Address VARCHAR(100)
);

```
mysql> CREATE TABLE Warehouse(
    -> Warehouse_Code INT NOT NULL PRIMARY KEY,
    -> Bookstore_Code VARCHAR(100),
    -> FOREIGN KEY(Bookstore_Code) REFERENCES OnlineBookstore(Bookstore_Code),
    -> Warehouse_Phone VARCHAR(100),
    -> Warehouse_Address VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Warehouse_Book

CREATE TABLE Warehouse_Book(
        Warehouse_Code INT NOT NULL,
        FOREIGN KEY(Warehouse_Code) REFERENCES Warehouse(Warehouse_Code),
        Book_ISBN VARCHAR(100) NOT NULL,
        FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
        PRIMARY KEY(Warehouse_Code,Book_ISBN),
        CountWB INT
);

```
mysql> CREATE TABLE Warehouse_Book(
    -> Warehouse_Code INT NOT NULL,
    -> FOREIGN KEY(Warehouse_Code) REFERENCES Warehouse(Warehouse_Code),
    -> Book_ISBN VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
    -> PRIMARY KEY(Warehouse_Code,Book_ISBN),
    -> CountWB INT
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Staff

CREATE TABLE Staff(
       Staff_ID VARCHAR(100) NOT NULL PRIMARY KEY,
       Bookstore_Code VARCHAR(100),
       FOREIGN KEY(Bookstore_Code) REFERENCES
OnlineBookstore(Bookstore_Code),
       Staff_Name VARCHAR(100) NOT NULL,
       Staff_Mobile VARCHAR(100) NOT NULL,
       Staff_Email VARCHAR(100)
);

```
mysql> CREATE TABLE Staff(
    -> Staff_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Bookstore_Code VARCHAR(100),
    -> FOREIGN KEY(Bookstore_Code) REFERENCES OnlineBookstore(Bookstore_Code),
    -> Staff_Name VARCHAR(100) NOT NULL,
    -> Staff_Mobile VARCHAR(100) NOT NULL,
    -> Staff_Email VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Participant

CREATE TABLE Participant(
       Participant_ID VARCHAR(100) NOT NULL PRIMARY KEY,
       Participant_Name VARCHAR(100),
       Participant_Mobile VARCHAR(100) NOT NULL,
       Participant_Address VARCHAR(100) NOT NULL,
       Participant_Email VARCHAR(100),
       Participant_Type VARCHAR(100)
);

```
mysql> CREATE TABLE Participant(
    -> Participant_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Participant_Name VARCHAR(100),
    -> Participant_Mobile VARCHAR(100) NOT NULL,
    -> Participant_Address VARCHAR(100) NOT NULL,
    -> Participant_Email VARCHAR(100),
    -> Participant_Type VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Competition

CREATE TABLE Competition(
      Competition_ID VARCHAR(100) NOT NULL PRIMARY KEY,
      Competition_Type VARCHAR(100),
      Competition_Date DATE NOT NULL
);

```
mysql> CREATE TABLE Competition(
    -> Competition_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Competition_Type VARCHAR(100),
    -> Competition_Date DATE NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## CREATE TABLE Score

CREATE TABLE Score(
      Score_ID VARCHAR(100) NOT NULL PRIMARY KEY,
      Participant_ID VARCHAR(100) NOT NULL,
      FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID),
      Competition_ID VARCHAR(100) NOT NULL,
      FOREIGN KEY(Competition_ID) REFERENCES Competition(Competition_ID),
      Score_Total VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE Score(
    -> Score_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Participant_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID),
    -> Competition_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Competition_ID) REFERENCES Competition(Competition_ID),
    -> Score_Total VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

**CREATE TABLE Prize**

CREATE TABLE Prize(
      Prize_ID VARCHAR(100) NOT NULL PRIMARY KEY,
      Score_ID VARCHAR(100) NOT NULL,
      FOREIGN KEY(Score_ID) REFERENCES Score(Score_ID),
      Participant_ID VARCHAR(100) NOT NULL,
      FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID),
      Staff_ID VARCHAR(100) NOT NULL,
      FOREIGN KEY(Staff_ID) REFERENCES Staff(Staff_ID),
      Prize_Name VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE Prize(
    -> Prize_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Score_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Score_ID) REFERENCES Score(Score_ID),
    -> Participant_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID),
    -> Staff_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Staff_ID) REFERENCES Staff(Staff_ID),
    -> Prize_Name VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

## ALTER TABLE

ALTER TABLE Book
RENAME COLUMN Title TO Book_Title;

```
mysql> ALTER TABLE Book
    -> RENAME COLUMN Title TO Book_Title;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

### Before:

```
mysql> describe book;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| Book_ISBN    | varchar(100)  | NO   | PRI | NULL    |       |
| Author_ID    | varchar(100)  | NO   | MUL | NULL    |       |
| Publisher_ID | varchar(100)  | NO   | MUL | NULL    |       |
| Book_Year    | int           | YES  |     | NULL    |       |
| Title        | varchar(100)  | NO   |     | NULL    |       |
| Price        | decimal(19,2) | NO   |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

### After:

```
mysql> describe book;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| Book_ISBN    | varchar(100)  | NO   | PRI | NULL    |       |
| Author_ID    | varchar(100)  | NO   | MUL | NULL    |       |
| Publisher_ID | varchar(100)  | NO   | MUL | NULL    |       |
| Book_Year    | int           | YES  |     | NULL    |       |
| Book_Title   | varchar(100)  | NO   |     | NULL    |       |
| Price        | decimal(19,2) | NO   |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

ALTER TABLE Score
MODIFY Score_Total INT NOT NULL;

```
mysql> ALTER TABLE Score
    -> MODIFY Score_Total INT NOT NULL;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

**Before:**

```
mysql> describe score;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| Score_ID       | varchar(100) | NO   | PRI | NULL    |       |
| Participant_ID | varchar(100) | NO   | MUL | NULL    |       |
| Competition_ID | varchar(100) | NO   | MUL | NULL    |       |
| Score_Total    | varchar(100) | NO   |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

**After:**

```
mysql> describe score;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| Score_ID       | varchar(100) | NO   | PRI | NULL    |       |
| Participant_ID | varchar(100) | NO   | MUL | NULL    |       |
| Competition_ID | varchar(100) | NO   | MUL | NULL    |       |
| Score_Total    | int          | NO   |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

**DROP TABLE**

DROP DATABASE bookstore;

```
mysql> DROP DATABASE bookstore;
Query OK, 14 rows affected (0.04 sec)
```