Task 1

1. Create the database named "TicketBookingSystem"

```
mysql> create database TicketBookingSystem;
Query OK, 1 row affected (0.01 sec)
```

2. Write SQL scripts to create the mentioned tables with appropriate data types, constraints, and relationships.

• Venu

```
mysql> use TickeyBookingSystem;
ERROR 1049 (42000): Unknown database 'tickeybookingsystem'
mysql> use TicketBookingSystem;
Database changed
mysql> create table venue(
    -> venueID char(5) primary key,
    -> venueName varchar(255),
    -> address text
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC venue;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| venueID   | char(5)      | NO   | PRI | NULL    |       |
| venueName | varchar(255) | YES  |     | NULL    |       |
| address   | text         | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

• Event

```
mysql> create table t_event(
    -> eventID char(5) primary key,
    -> eventName varchar(255),
    -> eventDate date,
    -> eventTime time,
    -> venueID char(5),
    -> totalSeats int,
    -> availableSeats int,
    -> ticketPrice decimal(10,2),
    -> eventType set('Movie', 'Concert', 'Sports'),
    -> foreign key(venueID) references venue(venueID) on delete cascade on update cascade
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC T_event;
+---------------+-------------------------------+------+-----+---------+-------+
| Field         | Type                          | Null | Key | Default | Extra |
+---------------+-------------------------------+------+-----+---------+-------+
| eventID       | char(5)                       | NO   | PRI | NULL    |       |
| eventName     | varchar(255)                  | YES  |     | NULL    |       |
| eventDate     | date                          | YES  |     | NULL    |       |
| eventTime     | time                          | YES  |     | NULL    |       |
| venueID       | char(5)                       | YES  | MUL | NULL    |       |
| totalSeats    | int                           | YES  |     | NULL    |       |
| availableSeats | int                           | YES  |     | NULL    |       |
| ticketPrice   | decimal(10,2)                 | YES  |     | NULL    |       |
| eventType     | set('Movie','Concert','Sports') | YES  |     | NULL    |       |
+---------------+-------------------------------+------+-----+---------+-------+
9 rows in set (0.00 sec)
```

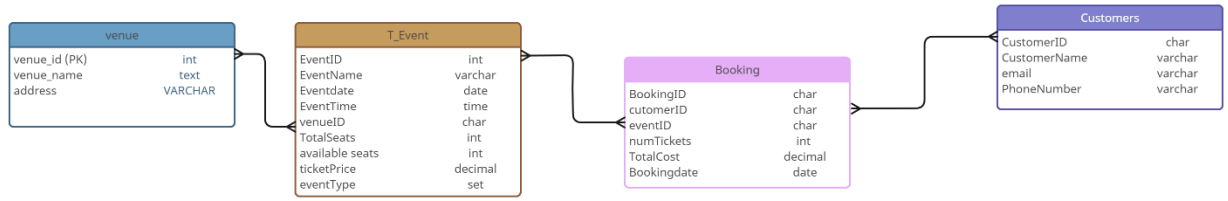
• Customers

```
mysql> create table customer(
    -> customerID char(5) primary key,
    -> customerName varchar(255),
    -> email varchar(30) unique,
    -> phoneNumber varchar(10) unique
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC customer;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| customerID   | char(5)      | NO   | PRI | NULL    |       |
| customerName | varchar(255) | YES  |     | NULL    |       |
| email        | varchar(30)  | YES  | UNI | NULL    |       |
| phoneNumber  | varchar(10)  | YES  | UNI | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

• Booking

```
mysql> create table booking(
    -> bookingID char(5) primary key,
    -> customerID char(5),
    -> eventID char(5),
    -> numTickets int,
    -> totalCost decimal(12, 2),
    -> bookingDate date,
    -> foreign key(customerID) references customer(customerID) on delete cascade on update cascade,
    -> foreign key(eventID) references t_event(eventID) on delete cascade on update cascade
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> DESC Booking;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| bookingID   | char(5)      | NO   | PRI | NULL    |       |
| customerID  | char(5)      | YES  | MUL | NULL    |       |
| eventID     | char(5)      | YES  | MUL | NULL    |       |
| numTickets  | int          | YES  |     | NULL    |       |
| totalCost   | decimal(12,2)| YES  |     | NULL    |       |
| bookingDate | date         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

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



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

```
mysql> DESC venue;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| venueID   | char(5)      | NO   | PRI | NULL    |       |
| venueName | varchar(255) | YES  |     | NULL    |       |
| address   | text         | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

```
mysql> DESC T_event;
+---------------+-------------------------------+------+-----+---------+-------+
| Field         | Type                          | Null | Key | Default | Extra |
+---------------+-------------------------------+------+-----+---------+-------+
| eventID       | char(5)                       | NO   | PRI | NULL    |       |
| eventName     | varchar(255)                  | YES  |     | NULL    |       |
| eventDate     | date                          | YES  |     | NULL    |       |
| eventTime     | time                          | YES  |     | NULL    |       |
| venueID       | char(5)                       | YES  | MUL | NULL    |       |
| totalSeats    | int                           | YES  |     | NULL    |       |
| availableSeats | int                          | YES  |     | NULL    |       |
| ticketPrice   | decimal(10,2)                 | YES  |     | NULL    |       |
| eventType     | set('Movie','Concert','Sports') | YES  |     | NULL    |       |
+---------------+-------------------------------+------+-----+---------+-------+
9 rows in set (0.00 sec)
```

```
mysql> DESC customer;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| customerID   | char(5)      | NO   | PRI | NULL    |       |
| customerName | varchar(255) | YES  |     | NULL    |       |
| email        | varchar(30)  | YES  | UNI | NULL    |       |
| phoneNumber  | varchar(10)  | YES  | UNI | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

```
mysql> DESC Booking;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| bookingID   | char(5)      | NO   | PRI | NULL    |       |
| customerID  | char(5)      | YES  | MUL | NULL    |       |
| eventID     | char(5)      | YES  | MUL | NULL    |       |
| numTickets  | int          | YES  |     | NULL    |       |
| totalCost   | decimal(12,2) | YES  |     | NULL    |       |
| bookingDate | date         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```