ASSIGNMENT 2

PART - 1

- CREATE TABLE Employees (
  EmployeeID INT PRIMARY KEY,
  FirstName VARCHAR(50),
  LastName VARCHAR(50),
  DepartmentID INT,
  Salary DECIMAL(10, 2),
  HireDate DATE
  );

- INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID, Salary, HireDate)
  VALUES
  (1, 'John', 'Doe', 1, 50000.00, '2023-01-15'),
  (2, 'Jane', 'Smith', 2, 60000.00, '2023-02-20'),
  (3, 'Alice', 'Johnson', 1, 70000.00, '2023-03-10');

```
mysql> CREATE TABLE Employees (EmployeeID INT PRIMARY KEY, FirstName VARCHAR(50), LastName VARCHAR(50), DepartmentID INT, Salary DECI
MAL(10, 2), HireDate DATE);
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID, Salary, HireDate) VALUES (1, 'John', 'Doe', 1, 50000.00,
 '2023-01-15'), (2, 'Jane', 'Smith', 2, 60000.00, '2023-02-20'), (3, 'Alice', 'Johnson', 1, 70000.00, '2023-03-10');
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> describe Employees;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| EmployeeID   | int           | NO   | PRI | NULL    |       |
| FirstName    | varchar(50)   | YES  |     | NULL    |       |
| LastName     | varchar(50)   | YES  |     | NULL    |       |
| DepartmentID | int           | YES  |     | NULL    |       |
| Salary       | decimal(10,2) | YES  |     | NULL    |       |
| HireDate     | date          | YES  |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

PART - 2

- ALTER TABLE Employees ADD CONSTRAINT uq_employeeid UNIQUE (EmployeeID);

```
mysql> ALTER TABLE Employees ADD CONSTRAINT uq_employeeid UNIQUE (EmployeeID);
Query OK, 0 rows affected (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe Employees;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| EmployeeID   | int           | NO   | PRI | NULL    |       |
| FirstName    | varchar(50)   | YES  |     | NULL    |       |
| LastName     | varchar(50)   | YES  |     | NULL    |       |
| DepartmentID | int           | YES  |     | NULL    |       |
| Salary       | decimal(10,2) | YES  |     | NULL    |       |
| HireDate     | date          | YES  |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

- CREATE TABLE Departments (
  DepartmentID INT PRIMARY KEY,
  DepartmentName VARCHAR(100)
  );

- INSERT INTO Departments (DepartmentID, DepartmentName) VALUES
  (1, 'Human Resources'),
  (2, 'Engineering'),
  (3, 'Marketing');

```
mysql> CREATE TABLE Departments (DepartmentID INT PRIMARY KEY, DepartmentName VARCHAR(100));
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Departments (DepartmentID, DepartmentName) VALUES (1, 'Human Resources'), (2, 'Engineering'), (3, 'Marketing');
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> describe Departments;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| DepartmentID   | int          | NO   | PRI | NULL    |       |
| DepartmentName | varchar(100) | YES  |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

- ALTER TABLE Employees ADD CONSTRAINT fk_department FOREIGN KEY (DepartmentID)
  REFERENCES Departments(DepartmentID);

```
mysql> ALTER TABLE Employees ADD CONSTRAINT fk_department FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID);
Query OK, 3 rows affected (0.07 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> describe Employees;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| EmployeeID   | int           | NO   | PRI | NULL    |       |
| FirstName    | varchar(50)   | YES  |     | NULL    |       |
| LastName     | varchar(50)   | YES  |     | NULL    |       |
| DepartmentID | int           | YES  | MUL | NULL    |       |
| Salary       | decimal(10,2) | YES  |     | NULL    |       |
| HireDate     | date          | YES  |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

- ALTER TABLE Employees ADD CONSTRAINT chk_salary CHECK (Salary > 0);

```
mysql> ALTER TABLE Employees ADD CONSTRAINT chk_salary CHECK (Salary > 0);
Query OK, 3 rows affected (0.08 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> describe Employees;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| EmployeeID   | int           | NO   | PRI | NULL    |       |
| FirstName    | varchar(50)   | YES  |     | NULL    |       |
| LastName     | varchar(50)   | YES  |     | NULL    |       |
| DepartmentID | int           | YES  | MUL | NULL    |       |
| Salary       | decimal(10,2) | YES  |     | NULL    |       |
| HireDate     | date          | YES  |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

- ALTER TABLE Employees ADD CONSTRAINT uq_fullname UNIQUE (FirstName, LastName);

```
mysql> ALTER TABLE Employees ADD CONSTRAINT uq_fullname UNIQUE (FirstName, LastName);
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe Employees;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| EmployeeID   | int           | NO   | PRI | NULL    |       |
| FirstName    | varchar(50)   | YES  | MUL | NULL    |       |
| LastName     | varchar(50)   | YES  |     | NULL    |       |
| DepartmentID | int           | YES  | MUL | NULL    |       |
| Salary       | decimal(10,2) | YES  |     | NULL    |       |
| HireDate     | date          | YES  |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

- CREATE TABLE ProjectAssignments (
  EmployeeID INT,
  ProjectID INT,
  Role VARCHAR(50),
  PRIMARY KEY (EmployeeID, ProjectID)
  );

- ALTER TABLE Employees ADD CONSTRAINT uq_fullname UNIQUE (FirstName, LastName);

PART - 3

- ALTER TABLE Employees DROP INDEX uq_employeeid;
- ALTER TABLE Employees ADD CONSTRAINT uq_employeeid UNIQUE (EmployeeID);

```
mysql> CREATE TABLE ProjectAssignments ( EmployeeID INT,    ProjectID INT,    Role VARCHAR(50), PRIMARY KEY (EmployeeID, ProjectID));

ERROR 1050 (42S01): Table 'projectassignments' already exists
mysql> drop table projectassignments;
Query OK, 0 rows affected (0.03 sec)

mysql> CREATE TABLE ProjectAssignments ( EmployeeID INT,    ProjectID INT,    Role VARCHAR(50), PRIMARY KEY (EmployeeID, ProjectID));

Query OK, 0 rows affected (0.02 sec)

mysql> ALTER TABLE Employees DROP INDEX uq_employeeid;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE Employees ADD CONSTRAINT uq_employeeid UNIQUE (EmployeeID);
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe projectassignments;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| EmployeeID | int         | NO   | PRI | NULL    |       |
| ProjectID  | int         | NO   | PRI | NULL    |       |
| Role       | varchar(50) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

- ALTER TABLE Employees ADD Age INT;
- ALTER TABLE Employees ADD CONSTRAINT chk_age CHECK (Age BETWEEN 18 AND 65);

```
mysql> ALTER TABLE Employees ADD Age INT;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE Employees ADD CONSTRAINT chk_age CHECK (Age BETWEEN 18 AND 65);
Query OK, 3 rows affected (0.05 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> describe Employees;
+--------------+---------------+------+-----+---------+-------+
| Field        | Type          | Null | Key | Default | Extra |
+--------------+---------------+------+-----+---------+-------+
| EmployeeID   | int           | NO   | PRI | NULL    |       |
| FirstName    | varchar(50)   | YES  | MUL | NULL    |       |
| LastName     | varchar(50)   | YES  |     | NULL    |       |
| DepartmentID | int           | YES  | MUL | NULL    |       |
| Salary       | decimal(10,2) | YES  |     | NULL    |       |
| HireDate     | date          | YES  |     | NULL    |       |
| Age          | int           | YES  |     | NULL    |       |
+--------------+---------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

TABLES -

```
mysql> select * from Employees;
+------------+-----------+----------+--------------+----------+------------+------+
| EmployeeID | FirstName | LastName | DepartmentID | Salary   | HireDate   | Age  |
+------------+-----------+----------+--------------+----------+------------+------+
|          1 | John      | Doe      |            1 | 50000.00 | 2023-01-15 | NULL |
|          2 | Jane      | Smith    |            2 | 60000.00 | 2023-02-20 | NULL |
|          3 | Alice     | Johnson  |            1 | 70000.00 | 2023-03-10 | NULL |
+------------+-----------+----------+--------------+----------+------------+------+
3 rows in set (0.00 sec)

mysql> select * from Departments;
+--------------+-----------------+
| DepartmentID | DepartmentName  |
+--------------+-----------------+
|            1 | Human Resources |
|            2 | Engineering     |
|            3 | Marketing       |
+--------------+-----------------+
3 rows in set (0.00 sec)
```