```
mysql> create database Employee;
Query OK, 1 row affected (0.00 sec)

mysql> use Employee;
Database changed
mysql> Create Table Employee(EmpID int primary key, EmpName varchar(100), Department varchar(100),Department
varchar (100),Salary int);
ERROR 1060 (42S21): Duplicate column name 'Department'
mysql> Create Table Employee(EmpID int primary key, EmpName varchar(100), Department varchar(100),Salary int);
Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO Employee
    -> VALUES(1,'ALICE','HR',50000),(2,'BOB','FINANCE',60000),(3,'CHARLIE','IT',80000);
Query OK, 3 rows affected (0.06 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM Employee;
+-------+---------+------------+--------+
| EmpID | EmpName | Department | Salary |
+-------+---------+------------+--------+
|     1 | ALICE   | HR         |  50000 |
|     2 | BOB     | FINANCE    |  60000 |
|     3 | CHARLIE | IT         |  80000 |
+-------+---------+------------+--------+
3 rows in set (0.00 sec)

mysql> ALTER TABLE Employee ADD Phone VARCHAR(15);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM Employee;
+-------+---------+------------+--------+-------+
| EmpID | EmpName | Department | Salary | Phone |
+-------+---------+------------+--------+-------+
|     1 | ALICE   | HR         |  50000 | NULL  |
|     2 | BOB     | FINANCE    |  60000 | NULL  |
|     3 | CHARLIE | IT         |  80000 | NULL  |
+-------+---------+------------+--------+-------+
3 rows in set (0.00 sec)

mysql> UPDATE Employee SET Salary=Salary+5000 WHERE Department='IT';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM Employee;
+-------+---------+------------+--------+-------+
| EmpID | EmpName | Department | Salary | Phone |
+-------+---------+------------+--------+-------+
|     1 | ALICE   | HR         |  50000 | NULL  |
|     2 | BOB     | FINANCE    |  60000 | NULL  |
|     3 | CHARLIE | IT         |  85000 | NULL  |
+-------+---------+------------+--------+-------+
3 rows in set (0.00 sec)

mysql> GRANT SELECT ON Employee TO user1;
ERROR 1410 (42000): You are not allowed to create a user with GRANT
mysql> BEGIN TRANSACTION;
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 'TRANSACTION' at line 1
```

```
mysql> DELIMITER //
mysql> BEGIN TRANSACTION;
    -> DELETE FROM Employee WHERE EmpID=3;
    -> ROLLBACK;
    -> //
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 'TRANSACTION;
DELETE FROM Employee WHERE EmpID=3;
ROLLBACK' at line 1
mysql> DELIMITER ;
mysql> SELECT * FROM Employee;
+-------+---------+------------+--------+-------+
| EmpID | EmpName | Department | Salary | Phone |
+-------+---------+------------+--------+-------+
|     1 | ALICE   | HR         |  50000 | NULL  |
|     2 | BOB     | FINANCE    |  60000 | NULL  |
|     3 | CHARLIE | IT         |  85000 | NULL  |
+-------+---------+------------+--------+-------+
3 rows in set (0.01 sec)

mysql> CREATE TABLE EMPLOYEE_UNF(EMPID INT, EMPNAME VARCHAR(100),SKILLS VARCHAR(255));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO EMPLOYEE_UNF
    -> VALUES(1,'ALICE','SQL','JAVA'),(2,'BOB','EXCEL','FINANCE'),(3,'CHARLIE','PYTHON','SQL');
ERROR 1136 (21S01): Column count doesn't match value count at row 1
mysql> INSERT INTO EMPLOYEE_UNF  VALUES(1,'ALICE','SQL,JAVA'),(2,'BOB','EXCEL,FINANCE'),
(3,'CHARLIE','PYTHON,SQL');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM EMPLOYEE_UNF;
+-------+---------+---------------+
| EMPID | EMPNAME | SKILLS        |
+-------+---------+---------------+
|     1 | ALICE   | SQL,JAVA      |
|     2 | BOB     | EXCEL,FINANCE |
|     3 | CHARLIE | PYTHON,SQL    |
+-------+---------+---------------+
3 rows in set (0.01 sec)

mysql> CREATE TABLE EMPLOYEE_1NF( EMPID INT,EMPNAME VARCHAR(100),SKILL VARCHAR(100));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO EMPLOYEE_1NF
    -> VALUES(1,'ALICE','SQL'),(1,'ALICE','JAVA'),(2,'BOB','EXCEL'),(2,'BOB','FINANCE'),(3,'CHARLIE','PYTHON'),
(3,'CHARLIE','SQL');
Query OK, 6 rows affected (0.00 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM EMPLOYEE_1NF;
+-------+---------+---------+
| EMPID | EMPNAME | SKILL   |
+-------+---------+---------+
|     1 | ALICE   | SQL     |
|     1 | ALICE   | JAVA    |
|     2 | BOB     | EXCEL   |
|     2 | BOB     | FINANCE |
|     3 | CHARLIE | PYTHON  |
```

```
|     3 | CHARLIE | SQL     |
+-------+---------+---------+
6 rows in set (0.00 sec)

mysql> CREATE TABLE EMPLOYEE_2NF(EMPID INT PRIMARY KEY,EMPNAME VARCHAR(100));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO EMPLOYEE_2NF
    -> VALUES(1,'ALICE'),(2,'BOB'),(3,'CHARLIE');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> CREATE TABLE EMPLOYEESKILLS_2NF(EMPID INT,SKILL VARCHAR(200),FOREIGN KEY(EMPID) REFERENCES
EMPLOYEE_2NF(EMPID));
Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO EMPLOYEESKILLS_2NF
    -> VALUES(1,'SQL'),(1,'JAVA'),(2,'EXCEL'),(2,'FINANCE'),(3,'PYTHON'),(3,'SQL');
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM EMPLOYEE_2NF;
+-------+---------+
| EMPID | EMPNAME |
+-------+---------+
|     1 | ALICE   |
|     2 | BOB     |
|     3 | CHARLIE |
+-------+---------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM EMPLOYEESKILLS_2NF;
+-------+---------+
| EMPID | SKILL   |
+-------+---------+
|     1 | SQL     |
|     1 | JAVA    |
|     2 | EXCEL   |
|     2 | FINANCE |
|     3 | PYTHON  |
|     3 | SQL     |
+-------+---------+
6 rows in set (0.00 sec)

mysql> CREATE TABLE EMPLOYEE_3NF( EMPID INT PRIMARY KEY,EMPNAME VARCHAR(100),DEPTID INT,FOREIGN
KEY(DEPTID) REFERENCES DEPARTMENT(DEPTID));
ERROR 1824 (HY000): Failed to open the referenced table 'DEPARTMENT'
mysql> CREATE TABLE DEPARTMENT(DEPTID PRIMARY KEY,DEPTNAME VARCHAR(50),DEPTHEAD VARCHAR(100));
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 'PRIMARY KEY,DEPTNAME VARCHAR(50),DEPTHEAD VARCHAR(100))' at line 1
mysql> CREATE TABLE DEPARTMENT(DEPTID INT PRIMARY KEY,DEPTNAME VARCHAR(50),DEPTHEAD VARCHAR(100));
Query OK, 0 rows affected (0.05 sec)

mysql> CREATE TABLE EMPLOYEE_3NF( EMPID INT PRIMARY KEY,EMPNAME VARCHAR(100),DEPTID INT,FOREIGN
KEY(DEPTID) REFERENCES DEPARTMENT(DEPTID));
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO DEPARTMENT
    -> VALUE(101,'HR','MR.A'),(102,'FINANCE','MS.B'),(103,'IT','MR.C');
```

```
Query OK, 3 rows affected (0.00 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> INSERT INTO EMPLOYEE_3NF
    -> VALUES(1,'ALICE',101),(2,'BOB',102),
    -> (3,'CHARLIE',103);
Query OK, 3 rows affected (0.00 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM DEPARTMENT;
+--------+----------+----------+
| DEPTID | DEPTNAME | DEPTHEAD |
+--------+----------+----------+
|    101 | HR       | MR.A     |
|    102 | FINANCE  | MS.B     |
|    103 | IT       | MR.C     |
+--------+----------+----------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM EMPLOYEE_3NF;
+-------+---------+--------+
| EMPID | EMPNAME | DEPTID |
+-------+---------+--------+
|     1 | ALICE   |    101 |
|     2 | BOB     |    102 |
|     3 | CHARLIE |    103 |
+-------+---------+--------+
3 rows in set (0.01 sec)

mysql>
```