1. Create a table called Employee & execute the following.

Employee(EMPNO,ENAME,JOB, MANAGER_NO, SAL, COMMISSION)
1. Create a user and grant all permissions to the user.
2. Insert the any three records in the employee table contains attributes EMPNO,ENAME JOB, MANAGER_NO, SAL, COMMISSION and use rollback. Check the result.
3. Add primary key constraint and not null constraint to the employee table.
4. Insert null values to the employee table and verify the result.

Solution:

1. **Steps for** Creating a user and grant all permissions to the user.

1. Create a User

CREATE USER username@localhost IDENTIFIED BY 'password';
'username' is the new username.
'localhost' specifies the host from which the user can connect (use '%' for any host).
'password' is the password for the user.

2. Grant Privileges to the User

GRANT ALL PRIVILEGES ON databasename.* TO root@localhost;
ALL PRIVILEGES grants all permissions (you can specify specific privileges like SELECT, INSERT, UPDATE, etc.).
database_name.* specifies the database and tables the user has access to.

3. Optional: Remove User

DROP USER 'username'@'localhost';

4. Login

system mysql -u username -h localhost

2. Insert the any three records in the employee table contains attributes

EMPNO,ENAME JOB, MANAGER_NO, SAL, COMMISSION and use rollback. Check the result.

3. Add primary key constraint and not null constraint to the employee table.
4. Insert null values to the employee table and verify the result.

1. Create Table

```
CREATE TABLE Employee (
   EMPNO INT,
   ENAME VARCHAR(50),
   JOB VARCHAR(30),
   MANAGER_NO INT,
   SAL DECIMAL(10,2),
   COMMISSION DECIMAL(10,2)
);
```

2. Insert Three Records and Use ROLLBACK

```
START TRANSACTION;

INSERT INTO Employee VALUES (101, 'John', 'Manager', 0, 60000, 5000);
INSERT INTO Employee VALUES (102, 'Alice', 'Analyst', 101, 45000,
NULL);
INSERT INTO Employee VALUES (103, 'Bob', 'Clerk', 102, 25000, NULL);

-- Now check the data
SELECT * FROM Employee;

-- Rollback the inserted data
ROLLBACK;

-- Verify that data is removed
SELECT * FROM Employee;
```

Note: above cmd will show **empty table** after rollback.

3. Alter Table to Add Constraints

```
ALTER TABLE Employee
MODIFY EMPNO INT NOT NULL,
MODIFY ENAME VARCHAR(50) NOT NULL;

ALTER TABLE Employee
ADD PRIMARY KEY (EMPNO);
```

- `NOT NULL` ensures values must be provided.
- `PRIMARY KEY` ensures each EMPNO is unique and not null.

4. Try Inserting NULL and Verify Result

```
-- This will fail because EMPNO and ENAME are NOT NULL / PRIMARY KEY
INSERT INTO Employee (EMPNO, ENAME, JOB, MANAGER_NO, SAL, COMMISSION) VALUES (NULL, NULL, 'Tester', 103, 30000, NULL);
```

You will get an error like:

```
ERROR 1048 (23000): Column 'EMPNO' cannot be null
```