DBs LabNo.8

Name: Umair Hafeez | CMS ID: 023-24-0473 | BSCS II

DATABASE SYSTEM

LAB No: 08

Objective of Lab No. 8:
After performing lab 8, students will be able to:

- To learn an application of Constraints on a Table & its columns

Introduction to constraints

SQL Constraints are rules used to limit the type of data that can go into a table, to maintain the accuracy and integrity of the data inside table.
Constraints can be divided into the following two types,

1. **Column level constraints:** Limits only column data.
2. **Table level constraints:** Limits whole table data.

Constraints are used to make sure that the integrity of data is maintained in the database. Following are the most used constraints that can be applied to a table.

- NOT NULL
- UNIQUE
- PRIMARY KEY
- FOREIGN KEY
- CHECK
- DEFAULT

Lab Task(s):

Exercise

1. Create a table DEPARTMENT with the following attributes:

DEPTNO number, DNAME varchar(10), LOC varchar(10).

PRIMARY KEY constraint on DEPTNO.

Query: Create database prac;

Query: Create Table Department(DEPTNO int Primary key ,DNAME varchar(10), LOC varchar(10));

2. Create a table EMPLOYEE with the following attributes:

EMPNO number, ENAME varchar(10),SAL number, DEPTNO number.

Apply FOREIGN KEY constraint on DEPTNO referencing the DEPARTMENT table

created in question 1 and PRIMARY KEY constraint on EMPNO and DEPTNO.

Query: Create Table EMPLOYEE(EMPNO int ,ENAME varchar(10), SAL int , DEPTNO int, Foreign key(DEPTNO) references DEPARTMENT(DEPTNO));

3. ALTER table EMPLOYEE created in question 2 and apply the constraint CHECK on ENAME attribute such that ENAME should always be inserted in capital letters.

Query: Alter Table EMPLOYEE add check(ENAME=upper(ENAME));

4. ALTER table DEPARTMENT created in question 1 and apply constraint on DNAME such that DNAME should not be entered empty.

Query: Alter Table DEPARTMENT modify DNAME varchar(10) Not Null;

5. ALTER table EMPLOYEE created in question 2 and apply the constraint on SAL attribute such that no two salaries of the employees should be similar.

Query: ALTER table EMPLOYEE modify SAL int Unique;

6. ALTER table EMPLOYEE created in question 2 and apply the constraint on DEPTNO attribute such that on update, update a child value and on delete set null value to a child.

Query: ALTER table EMPLOYEE Add Foreign key (DEPTNO) references DEPARTMENT(DEPTNO) On Update CASCADE On Delete set null;