DBs LabNo.7

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

DATABASE SYSTEM

LAB No: 07

Objective of Lab No. 7:

After performing lab 7, students will be able to:

- To learn Data Definition Language (DDL)

Introduction to data definition Language

DDL is short name of Data Definition Language, defines the database structure or database schema.

Following are the common SQL commands:

- CREATE - to create a database and its objects like (table, index, views, store procedure, function, and triggers)
- ALTER - alters the structure of the existing database
- DROP - delete objects from the database
- TRUNCATE - remove all records from a table, including all spaces allocated for the records are removed
- RENAME - rename an object

Lab Task(s): Exercise

Using Employee table, solve the following queries (1-5).

1. **Create a replica of Employee table with all the records in it.**

```
-- Query1
 CREATE TABLE replica_Employee as Select * from hr.Employee;
```

2. **Add a column 'Permanent Address' in it.**

```
-- Query2
  Alter Table replica_Employee Add(parmenant_address VARCHAR(50));
```

3. **Drop column 'Address' from it.**

```
-- Query3
 ALTER TABLE replica_Employee drop COLUMN parmenant_address;
```

4. **Add columns ‘House No’ character ,’Street No’ numeric, ’Area’ character ,’City’ character in it with the respective data types.**

```
-- Query4

  Alter Table replica_Employee add( house_no VARCHAR(25), street_no INT, area VARCHAR(100), city VARCHAR(100)

);
```

5. **Change the data type of ‘House No’ from character to numeric.**

```
-- Query5

Alter Table replica_Employee Modify house_no int;
```

6. **Create the Data Definitions for each of the relations shown below, using SQL DDL. Assume the following attributes and data types:**

FACULTY:

FacultyID (integer, primary key)

FacultyName (25 characters)

COURSE:

CourseID (8 characters, primary key)

CourseName (15 characters)

CLASS:

ClassID (8 characters)

CourseID (8 characters foreign key)

SectionNo (integer)

Semester (10 characters)

STUDENT:

StudentID (integer, primary key)

StudentName (25 characters)

FacultyID (integer foreign key)

-- Query6

-- Faculty:

CREATE TABLE Faculty (faculty_id INT PRIMARY KEY ,faculty_name VARCHAR(25));

-- Course:

CREATE TABLE Course(course_id char(8) Primary key,course_name VARCHAR(15));

-- Class:

CREATE TABLE Class(class_id char(8), course_id char(8), section_no INT,Semester VARCHAR(10),
foreign key (course_id) References course(course_id));

-- Student:

CREATE TABLE Student(student_id int Primary key,student_name VARCHAR(25),faculty_id INT,
foreign key (faculty_id) references faculty(faculty_id));

7. **How would you add an attribute, CLASS, to the STUDENT table?**

-- Query 7

ALTER TABLE Student Add Class VARCHAR(20);

8. **Write a SQL statement to rename the table department to dept (with both methods).**

-- Query 8

ALTER TABLE departments RENAME TO dept; --(Method:1)

Rename Table departments to dept; --(Method:2)

9. **Write a SQL statement to add a column regionId to the table locations.**

-- Query 9

```
ALTER TABLE locations ADD region_id INT;
```

10. **Write a SQL statement to change the name of the column state_province to state in locations table, keeping the data type and size same.**

```
-- Query 10

ALTER TABLE locations rename column state_province to state ;
```