Name: Ahad Shaikh
Roll No: 27
Batch: C1
Division: SY AIDS Panel C
Course: DBMS

Assignment 2

Aim: Design and develop SQL DDL statements for different system.

Objective: Write suitable DDL commands to define, alter and drop the schemas.

Theory:

SQL Statements

DDL	DML	DCL	TCL
Create	Insert	Grant	Commit
Alter	Update	Revoke	Rollback
Drop	Delete		savepoint
Rename	Select		
Truncate			

DDL Statements :

1. create table : We define an SQL relation by using the create table command

Syntax: CREATE TABLE table-name
(Column-name datatype (size),
);

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Example:
create table department
(dept_name varchar(20),
building varchar(15),
primary key (dept_name));

CONSTRAINTS:
- Used to define rules to allow or restrict what values can be stored in columns.

2. NOT NULL: Specifies that null value is not allowed for that attribute
syntax:

NOT NULL: Specifies that null value is not allowed for that attribute.
syntax: column_name datatype(size) not null;
To change

There are two ways of adding constraints to an attribute
1) During the declaration
2) After declaration (accessed in alter table statements
Basic syntax during creation: column_name datatype(size) NAME OF CONSTRAINT;
UNIQUE: does not allow to insert duplicate value in a column
PRIMARY KEY: Enforces table to create unique column.
FOREIGN KEY: Creates a link between two tables by one specific column of both tables. The specified table must be a primary key and referred by the

column of another table known as foreign key.
CHECK: Controls the values in the associated column.
DEFAULT: If no value is supplied to a column, then the column gets the value set as default.

ALTER TABLE STATEMENTS:

1) Add Column: Used to add an attribute to an existing table.
Syntax: ALTER TABLE table-name ADD column-name column-definition;
Ex: >ALTER TABLE dept ADD designation varchar(10);

2) Add multiple columns: Used to add an attribute at a prefered location.
ALTER TABLE table-name ADD column-name column-definition AFTER existing-column-name;
Ex: >ALTER TABLE dept ADD MName varchar(10) AFTER FName;

3) Drop a column: Used to remove an attribute from an relation.
Syntax: ALTER TABLE table-name DROP COLUMN column-name;
Example:
>alter table Hotel drop phone_no;

4) Not null constraint;
~~Syntax: ALTER TABLE table-name ALTER COLUMN~~
Syntax: ALTER TABLE table-name MODIFY column-name data-type NOT NULL;

5) UNIQUE CONSTRAINT:

Syntax: ALTER TABLE table-name
ADD CONSTRAINT constraint-name
UNIQUE (column-name);

Ex: ALTER TABLE Project
ADD CONSTRAINT unique-Pnumber (Pnumber);

6) PRIMARY KEY CONSTRAINT:

Syntax: ALTER TABLE table-name
ADD CONSTRAINT constraint_name
PRIMARY KEY(column1, column2, ...);

Ex: alter table User
add constraint primary key (user_id);

7) FOREIGN KEY CONSTRAINT:

Syntax: ALTER TABLE table-name
ADD CONSTRAINT constraint-name
FOREIGN KEY (column-name)
REFERENCES referenced-table (referenced-column);

Ex: alter table Dependent add constraint
foreign key (ESSN) references emp(SSN);

8) DEFAULT CONSTRAINT:

Syntax: ALTER TABLE table-name
ALTER COLUMN column-name
SET default default-value;

9) UNIQUE CONSTRAINT:

Syntax: ALTER TABLE table-name
ADD UNIQUE (column-name);

Ex: alter table emp add unique (address);

10) DROP A CONSTRAINT

Syntax: ALTER TABLE table-name
DROP constraint-name;

11) RENAME A COLUMN: Used to rename the attribute

syntax: ALTER TABLE table-name
CHANGE COLUMN old-name
new-name column-definition;

Ex: alter table project change column
Plocation Ploc varchar(30);

13) RENAME TABLE:

Syntax: ALTER TABLE table-name RENAME TO
new-table-name;

Ex: alter table emp rename to employee;

14) Drop a table: Used to remove a table

Syntax: DROP TABLE table-name;

Ex: drop table emp;

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DCC Commands:

- GRANT:
Statement used to give privileges to other users.

- REVOKE:
Statement is used to take away already given privileges from other users.

Steps
1. Login as root user
2. Create users
3. Give permissions using GRANT
4. Revoke permissions when needed using Revoke

SYNTAX:

GRANT privileges ON object TO user;

privileges: various abilities to perform on a DB
object: name of database
user: name of user

Ex: grant select on emp TO 'ahad'@'localhost'

Revoke:

Revoke privileges on object FROM user;

Revoke all on contacts to 'ahad'@'localhost'