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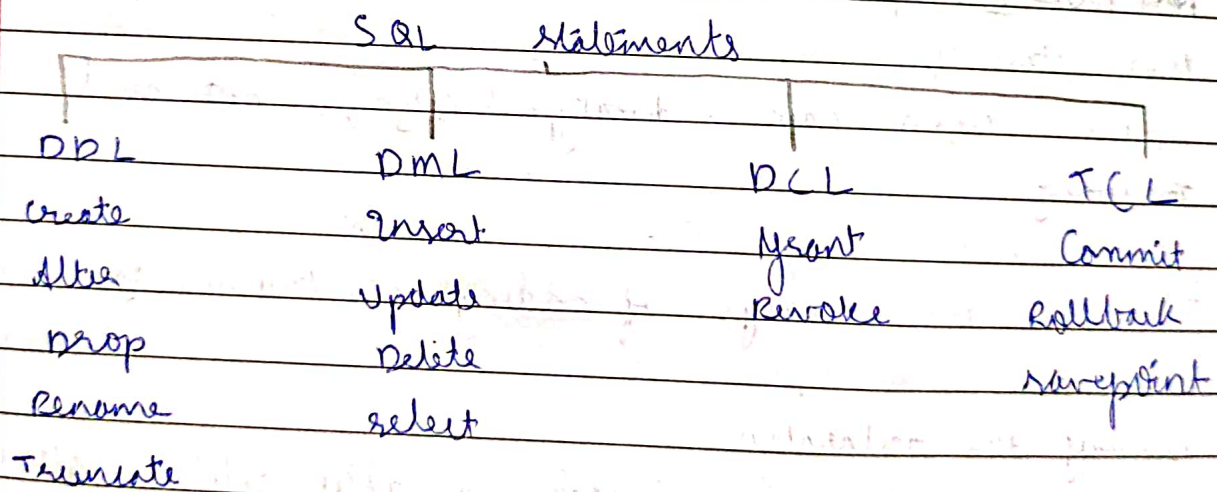
Course: DBMS

## Assignment 2

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

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

Theory:



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));

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.

~~1) NOT NULL: specifies that null value is not allowed for that attribute.~~  
syntax:

2) 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 (discussed 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 preferred 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

column-name data-type MODIFY  
NOT NULL;

### 5) UNIQUE CONSTRAINT:

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

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

### 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)  
REFERENCE, 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;

12) ~~RENAME~~ 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  
location place 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~~

## 14) Drop a table: Used to remove a table

Syntax: DROP TABLE table-name;

Ex: drop table emp;

SQL 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;

← name of user

← various abilities to perform on a DB

← name of database

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

Revoke:

Revoke privileges on object FROM user;

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