

AIM

To study basic DDL commands.

PROCEDURE**1. CREATE**

- It is used to create a new relation.
- *Syntax*: CREATE TABLE <Relation name>(<Attribute name₁><Datatype₁>, <Attribute name₂><Datatype₂>, ..., <Attribute name_n><Datatype_n>, <integrity-constraint₁>, <integrity-constraint_k>)
- **CONSTRAINTS**:
 - **NOT NULL**: This constraint prohibits the insertion of a null value for an attribute.
<Attribute name> <Datatype> NOT NULL
 - **UNIQUE**: No two tuples in a relation can be equal on a attribute or set of attributes which has been specified as unique.
UNIQUE (<Attribute name₁>, <Attribute name₂>, ..., <Attribute name_n>)
 - **CHECK**: It specifies a condition that must be satisfied by every tuple in the relation.
CHECK (Predicate)
 - **PRIMARY KEY**: It specifies that designated attributes form the primary key of the relation. It is *not null* and *unique*.
PRIMARY KEY (<Attribute name₁>, <Attribute name₂>, ..., <Attribute name_n>)
 - **FOREIGN KEY**: It specifies that it references a primary key of another relation.
FOREIGN KEY (<Attribute name>) REFERENCES <Related Relation name>

2. ALTER

- It is used to add a new attribute, add a new constraint, modify datatype and drop a new attribute to a relation.
- *Syntax*: ALTER TABLE <Relation name> ADD <Attribute name><Datatype>
- *Syntax*: ALTER TABLE <Relation name> ADD <constraint>

- *Syntax:* ALTER TABLE <Relation name> MODIFY <Attribute name><Datatype>
- *Syntax:* ALTER TABLE <Relation name> DROP COLUMN <Attribute name>

3. DROP

- It is used to remove a relation from the database.
- *Syntax:* DROP TABLE <Relation name>

4. RENAME

- It is used to rename one or more relations.
- *Syntax:* RENAME TABLE <Relation name> TO <New_Relation name>

5. TRUNCATE

- It empties a relation completely (delete all rows).
- *Syntax:* TRUNCATE TABLE <Relation name>

6. DESC

- It is neither a DDL nor DML command. It provides information about the attributes in a relation.
- *Syntax:* DESC <Relation name>

AIM

To study basic DML commands.

PROCEDURE

1. INSERT

- It is used to insert new tuple into a relation.
- *Syntax:* INSERT INTO <Relation name>
VALUES (<value₁>, <value₂>, ..., <value_n>)

2. SELECT

- It is a query statement used to retrieve data from relations or views.
- *Syntax:* SELECT (<Attribute name₁>, <Attribute name₂>, ..., <Attribute name_n>)
FROM <Relation name₁>, <Relation name₂>, ..., <Relation name_n>
WHERE <Condition>

3. UPDATE

- It is used to change values in a tuple or tuples of the relation.
- *Syntax:* UPDATE <Relation name>
SET <Attribute name> = <value>
WHERE <Condition>

4. DELETE

- It is used to delete tuple or tuples from the relation.
- *Syntax:* DELETE FROM <Relation name>
WHERE <Condition>

EXECUTION OF DDL & DML COMMANDS

CREATE RELATION

```
SQL> create table student (regno int, name varchar(20), cgpa number(4,2), deptID int);
```

Table created.

ALTER RELATION

```
SQL> alter table student add primary key(regno);
```

Table altered.

```
SQL> alter table student add dob date;
```

Table altered.

```
SQL> alter table student modify deptID varchar2(3);
```

Table altered.

DESCRIBE STRUCTURE OF RELATION

```
SQL> desc student;
```

Name	Null?	Type
REGNO	NOT NULL	NUMBER(38)
NAME		VARCHAR2(20)
CGPA		NUMBER(4, 2)
DEPTID		VARCHAR2(3)
DOB		DATE

INSERTING ROWS

```
SQL> insert into student values(1001, 'Rohith Sharma',9.6,'CC',date '1987-04-30');
```

1 row created.

```
SQL> insert into student values(1001, 'Virat Kohli',9.84,'CC', TO_DATE('05-11-1989','dd-mm-yyyy'));
```

```
insert into student values(1001, 'Virat Kohli',9.84,'CC', TO_DATE('05-11-1989','dd-mm-yyyy'))
```

*

ERROR at line 1:

ORA-00001: unique constraint (SYSTEM.SYS_C008314) violated

```
SQL> insert into student values(1002, 'Virat Kohli',9.84,'CC', TO_DATE('05-11-1989','dd-mm-yyyy'));
```

1 row created.

RETRIEVING DATA USING SELECT

```
SQL> select * from student;
```

REGNO	NAME	CGPA	DEP	DOB
1001	Rohith Sharma	9.6	CC	30-APR-87
1002	Virat Kohli	9.84	CC	05-NOV-89
1003	Yashasvi Jaiswal	9.94	CC	28-DEC-01
1004	Sanju Samson	9.4	CC	30-NOV-94

```
SQL> select regno, name, dob, cgpa from student;
```

REGNO	NAME	DOB	CGPA
1001	Rohith Sharma	30-APR-87	9.6
1002	Virat Kohli	05-NOV-89	9.84
1003	Yashasvi Jaiswal	28-DEC-01	9.94
1004	Sanju Samson	30-NOV-94	9.4

```
SQL> select regno, name, dob, cgpa from student where cgpa >=9.50;
```

REGNO	NAME	DOB	CGPA
1001	Rohith Sharma	30-APR-87	9.6
1002	Virat Kohli	05-NOV-89	9.84
1003	Yashasvi Jaiswal	28-DEC-01	9.94

UPDATE

```
SQL> update student set dob = date '1988-11-05' where regno = 1002;
```

1 row updated.

```
SQL> select * from student;
```

REGNO	NAME	CGPA	DEP	DOB
1001	Rohith Sharma	9.6	CC	30-APR-87
1002	Virat Kohli	9.84	CC	05-NOV-88
1003	Yashasvi Jaiswal	9.94	CC	28-DEC-01
1004	Sanju Samson	9.4	CC	30-NOV-94

```
SQL> update student set deptID = 'CSE';
```

4 rows updated.

```
SQL> select * from student;
```

REGNO	NAME	CGPA	DEP	DOB
1001	Rohith Sharma	9.6	CSE	30-APR-87
1002	Virat Kohli	9.84	CSE	05-NOV-88
1003	Yashasvi Jaiswal	9.94	CSE	28-DEC-01
1004	Sanju Samson	9.4	CSE	30-NOV-94

DELETE

```
SQL> delete from student where regno = 1004;
```

1 row deleted.

```
SQL> select * from student;
```

REGNO	NAME	CGPA	DEP	DOB
1001	Rohith Sharma	9.6	CSE	30-APR-87
1002	Virat Kohli	9.84	CSE	05-NOV-88
1003	Yashasvi Jaiswal	9.94	CSE	28-DEC-01

```
SQL> delete from student;
```

3 rows deleted.

```
SQL> delete from student;
```

```
3 rows deleted.
```

```
SQL> select * from student;
```

```
no rows selected
```

RENAME RELATION

SQL> rename student to ugstudent;

Table renamed.

```
SQL> select * from student;
select * from student
      *
ERROR at line 1:
ORA-00942: table or view does not exist
```

```
SQL> select * from ugstudent;
```

REGNO	NAME	CGPA	DEP	DOB
1001	Rohith Sharma	9.6	CC	30-APR-87
1002	Virat Kohli	9.84	CC	05-NOV-89
1003	Yashasvi Jaiswal	9.94	CC	28-DEC-01
1004	Sanju Samson	9.4	CC	30-NOV-94

ALTER RELATION – DROP COLUMN

SQL> alter table ugstudent drop column deptID;

Table altered.

```
SQL> select * from ugstudent;
```

REGNO	NAME	CGPA	DOB
1001	Rohith Sharma	9.6	30-APR-87
1002	Virat Kohli	9.84	05-NOV-89
1003	Yashasvi Jaiswal	9.94	28-DEC-01
1004	Sanju Samson	9.4	30-NOV-94

TRUNCATE

```
SQL> select * from ugstudent;
```

REGNO	NAME	CGPA	DOB
1001	Rhith Sharma	9.6	30-APR-87
1002	Virat Kohli	9.84	05-NOV-89
1003	Yashasvi Jaiswal	9.94	28-DEC-01
1004	Sanju Samson	9.4	30-NOV-94

```
SQL> delete from ugstudent;
```

4 rows deleted.

```
SQL> select * from ugstudent;
```

no rows selected

```
SQL> rollback;
```

Rollback complete.

```
SQL> select * from ugstudent;
```

REGNO	NAME	CGPA	DOB
1001	Rhith Sharma	9.6	30-APR-87
1002	Virat Kohli	9.84	05-NOV-89
1003	Yashasvi Jaiswal	9.94	28-DEC-01
1004	Sanju Samson	9.4	30-NOV-94

SQL> truncate table ugstudent;

Table truncated.


```

SQL> truncate table ugstudent;
Table truncated.
SQL> select * from ugstudent;
no rows selected
SQL> rollback;
Rollback complete.
SQL> select * from ugstudent;
no rows selected

```

DROP

SQL> **drop table ugstudent;**

Table dropped.

```

SQL Plus
SQL> select * from ugstudent;
no rows selected

SQL> desc ugstudent;

```

Name	Null?	Type
REGNO	NOT NULL	NUMBER(38)
NAME		VARCHAR2(20)
CGPA		NUMBER(4,2)
DOB		DATE

```

SQL> drop table ugstudent;
Table dropped.

SQL> select * from ugstudent;
select * from ugstudent
      *
ERROR at line 1:
ORA-00942: table or view does not exist

SQL> desc ugstudent;
ERROR:
ORA-04043: object ugstudent does not exist

```