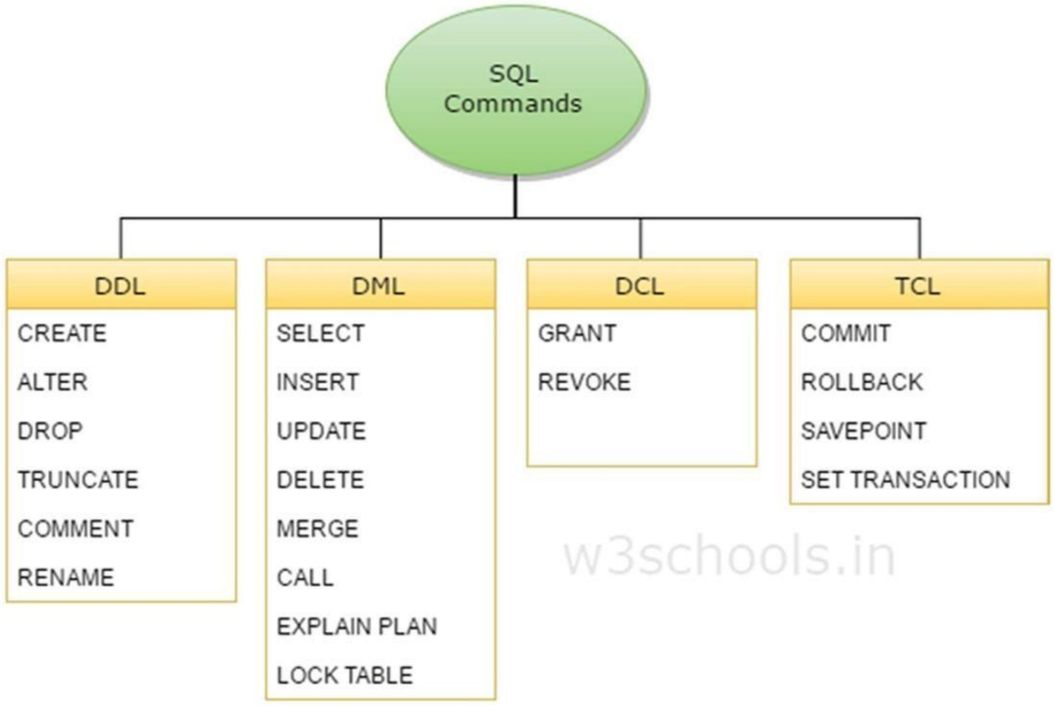
Ex.No:2 CREATION AND MODIFICATION OF RELATIONS

Aim: To execute different Data Definition Language commands.
Description:



DDL

DDL is short name of Data Defini on Language, which deals with database schemas and descrip ons, of how the data should reside in the database.

• CREATE – to create database and its objects like (table, index, views, storeprocedure, func on and triggers)

• ALTER – alters the structure of the exis ng database

• DROP – delete objects from the database

• TRUNCATE – remove all records from a table, including all spaces allocated forthe records are removed

• COMMENT – add comments to the data dic onary

•RENAME – rename an object

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DML

DML is short name of Data Manipula on Language which deals with data manipula on, and includes most common SQL statements such SELECT, INSERT, UPDATE, DELETE etc, and it is used to store, modify, retrieve, delete and update data in database.

- SELECT – retrieve data from the a database
- INSERT – insert data into a table
- UPDATE – updates exis ng data within a table
- DELETE – Delete all records from a database table
- MERGE – UPSERT opera on (insert or update)
- CALL – call a PL/SQL or Java subprogram
- EXPLAIN PLAN – interpreta on of the data access path
- LOCK TABLE – concurrency Control

DCL

DCL is short name of Data Control Language which includes commands such as GRANT, and mostly concerned with rights, permissions and other controls of the database system.

- GRANT – allow users access privileges to database
- REVOKE – withdraw users access privileges given by using the GRANTcommand TCL

TCL is short name of Transac on Control Language which deals with transac on within adatabase.

- COMMIT – commits a Transac on
- ROLLBACK – rollback a transac on in case of any error occurs
- SAVEPOINT – to roll back the transac on making points within groups
- SET TRANSACTION – specify characteris cs for the transac on

PROCEDURE:

Step no	Details of the step
1	Create a table.
2	Execute different DDL commands such as Create, Alter, Drop and Truncate.

Query:

1. CREATE TABLE:

To create a table, you have to name that table and define its columns and datatype for eachcolumn. 1a) Create Table

Syntax:

1. CREATE TABLE table_name

2. (

3. column1 datatype ,

4. column2

datatype ,5. ...

6. column_n

datatype7.);

Example

1. CREATE TABLE customers

2. (customer_id number(10) NOT NULL,

3. customer_name varchar2(50) NOT NULL,

4. city

varchar2(50)5.);

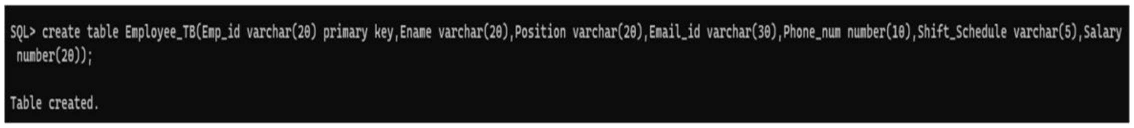
This table contains three columns

• customer_id: It is the first column created as a number datatype(maximum 10 digits in length) and cannot contain null values.

• customer_name: it is the second column created as a varchar2 datatype (50maximum characters in length) and cannot contain null values.

• city: This is the third column created as a varchar2 datatype. It can containnull values.

Output:



```
SQL> create table Employee_TB(Emp_id varchar(20) primary key,Ename varchar(20),Position varchar(20),Email_id varchar(30),Phone_num number(10),Shift_Schedule varchar(5),Salary
 number(20));

Table created.
```

1b) CREATE TABLE AS

The CREATE TABLE AS statement is used to create a table from an exis ng table by

copyingthe columns of exis ng table.

Syntax:

Example:

a) CREATE TABLE new_table AS (SELECT * FROM old_table);

b) CREATE TABLE newcustomers AS (SELECT * FROM customers WHERE customer_id <

5000);

1c) Create Table Example: Copying selected columns of another table

Syntax:

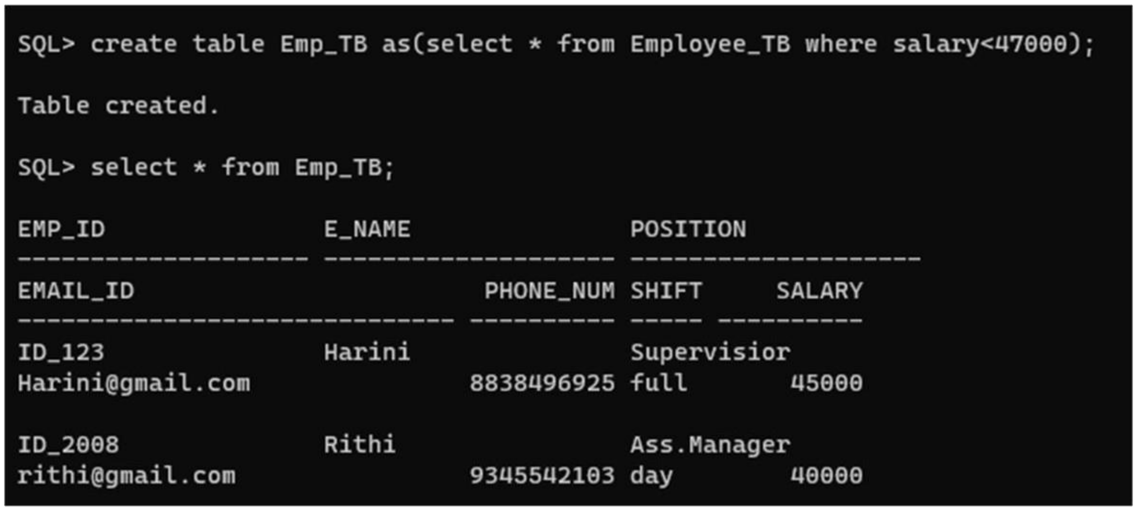
CREATE TABLE new_table AS (SELECT column_1, column2, ... column_n

FROM old_table);

Example:

CREATE TABLE newcustomers2 AS (SELECT customer_id,

customer_nameFROM customers WHERE customer_id < 5000); Output:



```
SQL> create table Emp_TB as(select * from Employee_TB where salary<47000);

Table created.

SQL> select * from Emp_TB;

EMP_ID               E_NAME               POSITION
-------------------- -------------------- --------------------
EMAIL_ID                       PHONE_NUM SHIFT     SALARY
------------------------------ ---------- ----- ----------
ID_123               Harini               Supervisior
Harini@gmail.com               8838496925 full       45000

ID_2008              Rithi                Ass.Manager
rithi@gmail.com                9345542103 day        40000
```

2. ALTER TABLE

ALTER TABLE statement specifies how to add, modify, drop or delete columns in a

table.It is also used to rename a table.

2a) Add column in a table

Syntax:

ALTER TABLE table_name ADD column_name column-defini on;

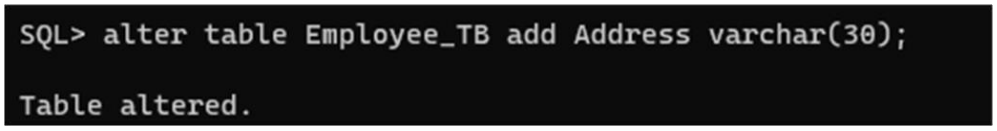
Example:

Consider that already exis ng table customers. Now, add a new

columncustomer_age into the table customers.

ALTER TABLE customers ADD customer_age varchar2(50);

Output:



```
SQL> alter table Employee_TB add Address varchar(30);

Table altered.
```

2b) Add mul ple columns in the exis ng

tableSyntax:

ALTER TABLE table_name ADD (column_1 column-defini on,

column_

2column defini on,

... column_n column_defini

on);Example

ALTER TABLE customers ADD (customer_type varchar2(50),

customer_address varchar2(50));

Now, two columns customer_type and customer_address will be added in the table

customers.

2c)Modify column of a

tableSyntax:

ALTER TABLE table_name MODIFY column_name column_type;

Example

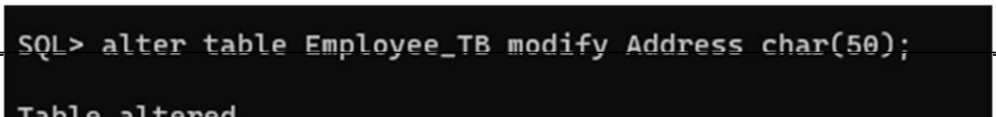
ALTER TABLE customers MODIFY customer_name varchar2(100) not

null;Now the column column_name in the customers table is modified to

varchar2

(100) and forced the column to not allow null values.

Output:



```
SQL> alter table Employee_TB modify Address char(50);

Table altered.
```

2d)Modify mul ple columns of a

tableSyntax:

ALTER TABLE table_name MODIFY (column_1 column_type,

column_

2column_type,

... column_n column_type);

Example:

ALTER TABLE customers MODIFY (customer_name varchar2(100) not

null,city varchar2(100));

This will modify both the customer_name and city columns in the

table.2e)Drop column of a table

Syntax:

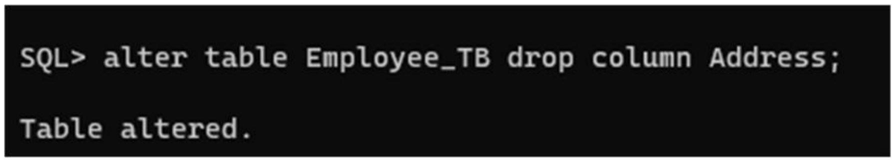
ALTER TABLE table_name DROP COLUMN column_name;

Example:

ALTER TABLE customers DROP COLUMN customer_name;This

will drop the customer_name column from the table.

Output:



```
SQL> alter table Employee_TB drop column Address;

Table altered.
```

2f) Rename column of a

tableSyntax:

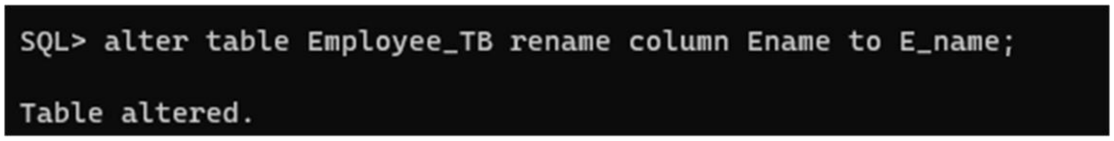
ALTER TABLE table_name RENAME COLUMN old_name to new_name;

Example: ALTER TABLE customers RENAME COLUMN customer_name to

cname;

This will rename the column customer_name into

cname.Output:



```
SQL> alter table Employee_TB rename column Ename to E_name;

Table altered.
```

2g)Rename

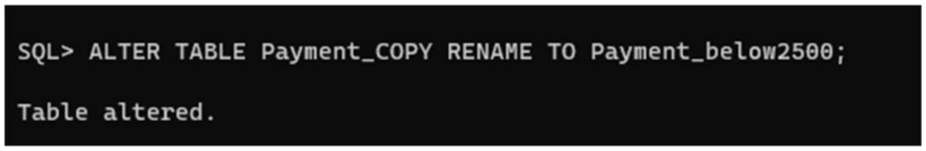
tableSyntax:

ALTER TABLE table_name RENAME TO new_table_name;

Example:

ALTER TABLE customers RENAME TO retailers;

This will rename the customer table into "retailers" table.



```
SQL> ALTER TABLE Payment_COPY RENAME TO Payment_below2500;

Table altered.
```

3) DROP TABLE Statement

3a) DROP TABLE statement is used to remove or delete a table from the Oracle

database.Syntax

DROP TABLE table_name;

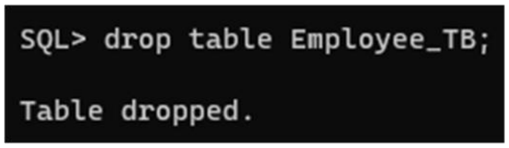
Example

DROP TABLE customers;

This will drop the table named

customers.Drop table Emp cascade;

Output:



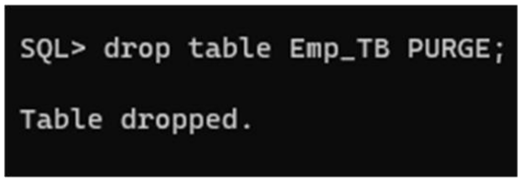
```
SQL> drop table Employee_TB;

Table dropped.
```

3b)DROP TABLE Example with PURGE

parameterDROP TABLE customers PURGE

This statement will drop the table called customers and issue a PURGE so that the space associated with the customers table is released and the customers table is not placed in recyclebin. So, it is not possible to recover that table if required.

Output:



```
SQL> drop table Emp_TB PURGE;

Table dropped.
```

4. TRUNCATE TABLE

TRUNCATE TABLE statement is used to remove all records from a table.

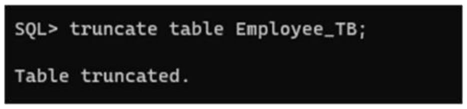
Syntax

TRUNCATE TABLE table_name;

Example

TRUNCATE TABLE customers;

Output:



```
SQL> truncate table Employee_TB;

Table truncated.
```

Result :

Thus the Data Definition Language command was executed and verified successfully