Register No: 22L31A0569 Experiment No: 01 Date:

S. No	Component	Max. Marks	Marks Secured
1	Preparedness	2	
2	Viva-Voce	2	
3	Experiment	3	
4	Analysis & Record	3	
Total		10	
Date		Signature of the Lab teacher	

EXPERIMENT-01

AIM:

To Creation, altering and dropping of tables and inserting rows into a table examples using SELECT command.

Description about Data Definition Language (DDL) Commands:

- Data Definition Language (DDL) commands can be used to define the database schema and are also used to modify the schema of the database and its objects
- The syntax of DDL commands is predefined for describing the data.
- The commands of DDL deal with how the data should exist in the database

Following are the five DDL commands in SQL:

1. **CREATE command:**

create is a DDL command used to create databases, tables, and other database objects

For example,

(i) CREATE Database Database_name;

The above command is used to create database of specified Database_name in the SQL database.

(ii) CREATE table table_name (column1_name data_type, ..., columnn_name data_type);

The above command is used to create table of specified table_name and number of columns i.e., n

2 ALTER Command:

ALTER is a DDL command which changes (or) modifies the existing structure of the database / table and it also changes the schema of database objects

for example,

(i) ALTER TABLE table_name ADD column_name column_definition;

The above command is used to add newfield in the table wrt the specified column definition.

(ii) ALTER ~~DROP~~ TABLE table_name DROP column column_name;

The above command is used to remove the specified column from the table

3. DROP command:

DROP is a DDL command used to delete / remove the database objects from the SQL Database. We can easily remove the entire table from the database using this DDL command

for example,

DROP TABLE table_name;

The above command is used to delete the specified table from the SQL Database.

4 TRUNCATE Command:

TRUNCATE is a DDL command which deletes (or) removes all the records from the table. This command also removes the space allocated for storing the table records.

for example,

TRUNCATE TABLE table_name;

The above command is used to delete all the records of the specified table

5 RENAME command:

RENAME is a DDL command which is used to change the name of the database table

for example,

RENAME ~~TABLE~~ old_name to new_name;

The above command is used to change the table name.

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CREATION OF TABLE AND INSERTION OF VALUES INTO TABLE:

Here we create table using some constraints like UNIQUE, NOT NULL ... etc.

```
SQL> create table student(Id int PRIMARY KEY, name varchar(20) NOT NULL,
     Dept varchar(20), grade varchar(10) CHECK (grade IN ('A','B','C','D')),
     UNIQUE (name));

Table created.

SQL> desc student;
```

Name	Null?	Type
ID	NOT NULL	NUMBER(38)
NAME	NOT NULL	VARCHAR2(20)
DEPT		VARCHAR2(20)
GRADE		CHAR(1)

SQL> Table is created now we have to insert the values into the table.

```
SQL> insert into student values(001,'East','CSE','A');

1 row created.

SQL> insert into student values(002,'West','ECE','D');

1 row created.

SQL> insert into student values(003,'North','CSE','B');

1 row created.

SQL> select *from student;
```

ID	NAME	DEPT	G
1	East	CSE	A
2	West	ECE	D
3	North	CSE	B

```
SQL> insert into student values(004,'South','EEE','E');
ERROR at line 1:
ORA-02290: check constraints (ASHICA.SYS_C007000) violated
SQL> insert into student values(004,'East','EEE','A');
ERROR at line 1:
ORA-00001: unique constraint (ASHICA.SYS_C007002) violated.
SQL> insert into student values(001,'South','EEE','A');
ERROR at line 1:
ORA-00001: unique constraint (ASHICA.SYS_C007001) violated.
```

MODIFYING TABLE USING ALTER COMMAND:

SQL >--alter add command is used to add a column into the table

```
SQL > alter table student add email varchar(100) unique;
    Table altered.
SQL > desc student;
```

Name	Null?	Type
ID	NOTNULL	NUMBER(38)
NAME	NOT NULL	VARCHAR2(20)
DEPT		VARCHAR2(20)
GRADE		CHAR(1)
EMAIL		VARCHAR2(100)

```
SQL > insert into student select 004, 'South', 'CIVIL', 'B', 'south@gmail.com'
      from dual where not exist (select 1 from student where id = 004);
  1 row created.
SQL > update student set email = 'East@gmail.com' where id = 001;
  1 row updated
SQL > update student set email = 'West@gmail.com' where id = 002;
  1 row updated
SQL > update student set email = 'North@gmail.com' where id = 003;
  1 row updated.
SQL > select * from student;
```

ID	Name	Dept	G	Email
001	East	CSE	A	East@gmail.com
002	West	ECE	D	west@gmail.com
003	North	CSE	B	North@gmail.com.
004	South	CIVIL	B	South@gmail.com.

```
SQL> --- alter drop command is used to remove a column
SQL> alter table student drop column email;
    Table altered.
SQL > desc student;
```

Name	Null?	Type
ID	NOT NULL	NUMBER(38)
NAME	NOT NULL	VARCHAR2(20)
DEPT		VARCHAR2(20)
GRADE		CHAR(1)

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SQL> --- alter rename command is used to change the name of a column

SQL> alter table student rename column Dept to Department;

Table altered.

SQL> desc student;

Name	Null?	Type
ID	NOT NULL	NUMBER(38)
NAME	NOT NULL	VARCHAR2(20)
DEPARTMENT		VARCHAR2(20)
GRADE		CHAR(1)

SQL> --- alter modify command is used to change the datatype of column

SQL> --- NOTE that the column should be made NULL before modifying.

SQL> update student set ~~grade = NULL~~ Department = NULL;

5 rows updated.

SQL> alter table student modify (Department ~~VAR~~ int);

SQL> desc student;

Name	Not Null?	Type
ID	NOT NULL	NUMBER(38)
NAME	NOT NULL	VARCHAR2(20)
DEPARTMENT		NUMBER(38)
GRADE		CHAR(1)

SQL> alter ~~modi~~ table student modify (Department VARCHAR2(20));

Table altered

SQL> update student set Department = 'CSE';

5 rows updated.

SQL> select * from student;

ID	NAME	Department	Grade
1	East	CSE	A
2	West	CSE	D
3	North	CSE	B
4	South	CSE	B

SQL> update student set Department = 'ECE' where id = 002;

1 row updated.

SELECT COMMAND:

SQL>--- It is used to retrieve (or) fetch data from a table/database

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

ID	Name	Department	Grade
1	East	CSE	A
2	West	ECE	D
3	North	CSE	B
4	South	CSE	B

SQL> ---the above command is used to print ~~the~~/retrieve the entire table

SQL> --- To fetch particular column(s) we use the following command

```
SQL >select id, name from student;
```

ID	Name
1	East
2	West
3	North
4	South

SQL> --- To fetch detail based on particular/specified criteria we use

```
SQL > select * from student where Department = 'ECE';
```

ID	NAME	Department	Grade
2	West	ECE	D

CHANGING TABLE NAME USING RENAME COMMAND:

```
SQL > RENAME student to stu;

    Table renamed.

SQL > desc stu;
```

Name	Null?	Type
ID	NOT NULL	NUMBER(38)
NAME	NOT NULL	VARCHAR2(20)
DEPARTMENT		VARCHAR2(20)
GRADE		CHAR(1)

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DELETING ALL RECORDS FROM THE TABLE USING TRUNCATE COMMAND

```
SQL > truncate table stu;
      Table truncated
SQL > desc stu;
```

Name	Null?	Type
ID	NOT NULL	NUMBER(38)
NAME	NOT NULL	VARCHAR2(20)
DEPARTMENT		VARCHAR2(20)
GRADE		CHAR(1)

```
SQL > select * from stu;
      no rows selected.
```

DELETING TABLE FROM THE DATABASE USING DROP COMMAND:

```
SQL > drop table stu;
      Table dropped.
SQL > desc stu;
      ERROR:
      ORA-04043: object stu does not exist.
SQL > select * from stu;
      ERROR at line 1:
      ORA-00942: table or view does not exist.
```