# Report Template

**Exp No: 1**
**Submission Date:** 18/05/2023

**Experiment title**

# DML, DDL, DCL, TCL

**Aim:**
**To Execute the DML, DDL, DCL, TCL commands**

NAME- SAMARTH NAG

REG NO. -21BCT0157

matlab@SJT416SCOPE053:~$ rlwrap sqlplus
SQL*Plus: Release 19.0.0.0.0 - Production on Wed May 10 18:11:01 2023
Version 19.3.0.0.0



Enter user-name: 21BCT0157@SCOPEORA
Enter password:

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

**1. Command-create table “Table_name”();**
**Used for Creating a table.**

```
SQL> create table game(name char(15),age number(4),won number(4));

Table created.
```

**2. Command-Insert into “Table_name”() values();**
**Used for Adding data to the table.**

```
SQL> insert into game(name ,age ,won) values('Samarth Nag','21','4');

1 row created.

SQL> insert into game(name ,age ,won) values('Aditya ','22','3');

1 row created.

SQL> insert into game(name ,age ,won) values('Ayush','21','4');

1 row created.

SQL> insert into game(name ,age ,won) values('Rohit','26','5');

1 row created.
```

**3. Command-Select * from “table_name”;**
**Used for Viewing the table.**

```
SQL> select * from game;

NAME                AGE         WON
--------------- ---------- ----------
Samarth Nag           21          4
Aditya                22          3
Ayush                 21          4
Rohit                 26          5
```

**4. Command-**select * from “table_name” order by won;

**Used for Sorting the table in ascending order on the basis on number of games won.**

SQL> select * from game order by won;

| NAME | AGE | WON |
|---|---|---|
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Samarth Nag | 21 | 4 |
| Rohit | 26 | 5 |

**5. Command-Sorting the table in descending order on the basis of Age.**

SQL> select * from game order by age desc;

| NAME | AGE | WON |
|---|---|---|
| Rohit | 26 | 5 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Samarth Nag | 21 | 4 |

**6. Command-alter "table_name" add(col number);**
**Used for Adding a column.**

SQL> alter table game add(lost number(2));

Table altered.

SQL> select * from game;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | |
| Aditya | 22 | 3 | |
| Ayush | 21 | 4 | |
| Rohit | 26 | 5 | |

**7. Command-Adding a value to new column using ‘WHERE’.**

SQL> update game set lost=3 where name = 'Aditya';

1 row updated.

SQL> select * from game;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | |
| Aditya | 22 | 3 | 3 |
| Ayush | 21 | 4 | |
| Rohit | 26 | 5 | |

SQL> update game set lost=2 where name = 'Rohit';

1 row updated.

SQL> select * from game;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | |
| Aditya | 22 | 3 | 3 |
| Ayush | 21 | 4 | |
| Rohit | 26 | 5 | 2 |

**8. Command- alter table “table_name” drop “col name”;**
**Used for Deleting column ‘Lost’.**

SQL> alter table game drop column lost;

Table altered.

SQL> select * from game;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |

**9. Command-rename “table_name” to “new_table_name”;**
**Used for Renaming the table.**

SQL> rename game to contest;

Table renamed.

SQL> select * from contest;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |

**THE PREVIOUS TABLE NAME DOES NOT EXIST AS IT IS RENAMED TO CONTEST;**

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

**10. Command-alter table “table_name”modify();**
**Used for Modifying existing table.**

INITIALLY
SQL> select * from contest;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |

SQL> alter table contest modify(name char(20),won number(4));

Table altered.

SQL> select * from contest;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |

**11. Command-select col names from “table_name” where col name=””;**
**Used for Viewing a specific row.**

SQL> select name,age,won from contest where name='Samarth Nag';

| NAME | AGE | WON |
|---|---|---|

| | | |
|---|---|---|
| Samarth Nag | 21 | 4 |

**12. Command-select distinct * from “table_name”;**
**Using for Viewing non-duplicate items.**

**INSERTING DUPLICATE ROW IN THE TABLE**

SQL> insert into contest(name,age,won) values('Samarth Nag','21','4');

1 row created.

SQL> select * from contest;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |
| Samarth Nag | 21 | 4 |

**VIEWING NON DUPLICATES**
SQL> select distinct * from contest;

| NAME | AGE | WON |
|---|---|---|
| Ayush | 21 | 4 |
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Rohit | 26 | 5 |

**13. Command-insert into “table1” select (col names) from “table2”;**
**Used for Copying data from one table to another (contest to contest1).**

**CREATING A NEW TABLE CONTEST1**

SQL> create table contest1(name char(20),age number(2),won number(3));

Table created.

SQL> insert into contest1 select name,age,won from contest;

5 rows created.

SQL> select * from contest1;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |

Aditya 22 3
Ayush 21 4
Rohit 26 5
Samarth Nag 21 4

**14. Command-alter table “table_name” add();--for creating table**
**Update “table_name” set col name=val;**
**Used for Adding a new column to the table and adding data to column all at once (same value).**

```
SQL> alter table contest add(lost number(3
  2 ));

Table altered.

SQL> update contest set lost=2;

5 rows updated.

SQL> select * from contest;
```

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Rohit | 26 | 5 | 2 |
| Samarth Nag | 21 | 4 | 2 |

**15. Command-delete from”table_name” where col_nam=val;**
**Used for deleting a specific row**

```
SQL> delete from contest where won=5;

1 row deleted.

SQL> select * from contest;
```

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Samarth Nag | 21 | 4 | 2 |

**16. Command-truncate table”table-name”;**
**Truncate COMMAND REMOVES ALL ROWS**
SQL> select * from contest1;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |

| | | |
|---|---|---|
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |
| Samarth Nag | 21 | 4 |

SQL> truncate table contest1;

Table truncated.

SQL> select * from contest1;

no rows selected

**17. Command-drop table “table_name”;**

**Drop table command deletes the whole table**

SQL> drop table contest1;

Table dropped.

SQL> select * from contest1;
select * from contest1
*
ERROR at line 1:
ORA-00942: table or view does not exist

**Result-** Hence the DDL & DML commands are executed

# DCL COMMANDS

### 1. Command-grant all on contest to ”other_user_id” with grant option
### Used to give permissions to other user to access owners data
### Grant Statement:

1. Granting user **21BDS0058** the access to table **“contest”**

SQL> select * from contest;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Samarth Nag | 21 | 4 | 2 |

SQL> grant all on contest to "21BDS0058" with grant option;

Grant succeeded.

**2. Command- select * from “owner_id”.table_name;**

**Selecting table by other user(21BDS0058)**
SQL> select * from "21BCT0157".contest;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Samarth Nag | 21 | 4 | 2 |

**3. Command-alter table“owner_id”.table_name add();**

**Table altered by other user.**

INITIALLY
SQL> select * from "21BCT0157".contest;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Samarth Nag | 21 | 4 | 2 |

After altering
SQL> alter table "21BCT0157".contest add(place varchar2(7));

Table altered.

VIEWING from primary user
SQL> select * from contest;

| NAME | AGE | WON | LOST | PLACE |
|---|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 | |
| Aditya | 22 | 3 | 2 | |
| Ayush | 21 | 4 | 2 | |
| Samarth Nag | 21 | 4 | 2 | |

**4. Command-update “owner_id”.table_name set col. Name=’value’;**
**Update from secondary user**

SQL> update "21BCT0157".contest set place='Jaipur';

4 rows updated.

SQL> select * from "21BCT0157".contest;

| NAME | AGE | WON | LOST | PLACE |
|---|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 | Jaipur |
| Aditya | 22 | 3 | 2 | Jaipur |
| Ayush | 21 | 4 | 2 | Jaipur |
| Samarth Nag | 21 | 4 | 2 | Jaipur |

**HERE UPDATE MADE BY THE SECONDARY USER WILL NOT BE SHOWN TO THE PRIMARY USER;**

From Primary User
SQL> select * from contest;

| NAME | AGE | WON | LOST | PLACE |
|---|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 | |
| Aditya | 22 | 3 | 2 | |
| Ayush | 21 | 4 | 2 | |
| Samarth Nag | 21 | 4 | 2 | |

**5. Command-alter table“owner_id”.table_name” drop col name;**
**Dropping Table from Other User**

SCOTT-Secondary user;
HR-Primary User;

**Drop command from secondary user will drop the column from the table and this alter will also displayed to primary user**

Secondary User:
**Initially**

SQL> select * from "HR".contest;

| NAME | AGE | WON | LOST | PLACE |
|---|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 | Jaipur |
| Aditya | 22 | 3 | 2 | Jaipur |
| Ayush | 21 | 4 | 2 | Jaipur |
| Rohit | 26 | 5 | 2 | Jaipur |
| Samarth Nag | 21 | 4 | 2 | Jaipur |

**After Dropping**
SQL> alter table "HR".contest drop column place;

Table altered.

SQL> select * from "HR".contest;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Rohit | 26 | 5 | 2 |
| Samarth Nag | 21 | 4 | 2 |

**Primary User View:**
SQL> select * from contest;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Rohit | 26 | 5 | 2 |
| Samarth Nag | 21 | 4 | 2 |

**6. Command-revoke insert on “table_name” from other-user_id;**
**This command is used to take back the specific “INSERT” permission” from user.**

SQL> revoke insert on contest from "21BDS0058";

Revoke succeeded.

**7. Command-revoke all on “table_name” from “user-id”;**
**Revoking all permissions from other user.**

SQL> revoke all on contest from"21BDS0058";

Revoke succeeded.
**Result-**Hence the DCL commands are executed successfully

**TCL COMMANDS**

**1. Command-savepoint s1;**
**SAVEPOINT** marks and saves the current point in the processing of a transaction

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Rohit | 26 | 5 | 2 |
| Samarth Nag | 21 | 4 | 2 |

SQL> savepoint s1;

Savepoint created.

**2. Command-rollback to savepoint s1**
**It is used to go back to the previous/last step**
**Making changes to table after creating a savepoint and rolling back to the savepoint.**

SQL> update "HR".contest set lost='0';

5 rows updated.
SQL> select * from "HR".contest;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 0 |
| Aditya | 22 | 3 | 0 |
| Ayush | 21 | 4 | 0 |
| Rohit | 26 | 5 | 0 |
| Samarth Nag | 21 | 4 | 0 |

**After RollBack:**
SQL> rollback to savepoint s1;

Rollback complete.

SQL> select * from "HR".contest;

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Rohit | 26 | 5 | 2 |
| Samarth Nag | 21 | 4 | 2 |

**Note: All the changes made on the secondary user system will not be displayed on the primary user system**

**The secondary user can still make rollback to previous step by using this keyword(rollback to savepoint s1) for a savepoint.**

**3. Command-insert into "table_name" values(&col_name1,&col_name2);**
**Making changes after SAVEPOINT.**

```
SQL> insert into contest values('&name',&age,&won);
Enter value for name: Sai Sreekar
Enter value for age: 21
Enter value for won: 4
old   1: insert into contest values('&name',&age,&won)
new   1: insert into contest values('Sai Sreekar',21,4)

1 row created.

SQL> select * from contest;

NAME                 AGE       WON
-------------------- ---------- ----------
Samarth Nag           21         4
Aditya                22         3
Ayush                 21         4
Rohit                 26         5
Samarth Nag           21         4
Sai Sreekar           21         4

6 rows selected.
```

**4. Command-Going back to the SAVEPOINT.**

```
SQL> rollback to savepoint s1;

Rollback complete.

SQL> select * from contest;

NAME                 AGE       WON
-------------------- ---------- ----------
Samarth Nag           21         4
Aditya                22         3
Ayush                 21         4
Rohit                 26         5
Samarth Nag           21         4
```

**5. Command- commit**
**Used to display the change made by the secondary user to the primary user systern**

**Before:**

| NAME | AGE | WON | LOST |
|---|---|---|---|
| Samarth Nag | 21 | 4 | 2 |
| Aditya | 22 | 3 | 2 |
| Ayush | 21 | 4 | 2 |
| Rohit | 26 | 5 | 2 |
| Samarth Nag | 21 | 4 | 2 |

**After editing the table:**

SQL> alter table "HR".contest drop column lost;

Table altered.

SQL> select * from "HR".contest;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |
| Samarth Nag | 21 | 4 |

SQL> commit;

Commit complete.

**After committing, view from user system:**

SQL> select * from contest;

| NAME | AGE | WON |
|---|---|---|
| Samarth Nag | 21 | 4 |
| Aditya | 22 | 3 |
| Ayush | 21 | 4 |
| Rohit | 26 | 5 |
| Samarth Nag | 21 | 4 |

**All the changes made by the secondary user will be visible to the primary user system by using the commit command.**

## Also the changes can no longer be rollback to last step after committing

**Result-**Hence the TCL commands are executed successfully