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## Exercise Number: 2

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**Title of the Exercise : DATA MANIPULATION LANGUAGE (DML) COMMANDS**  
**Date of the Exercise :**

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### AIM OF THE EXPERIMENT

To study the various DML commands and implement them on the database.

### FACILITIES REQUIRED AND PROCEDURE

**a) Facilities required to do the experiment:**

Sl.No.	Facilities required	Quantity
1	System	1
2	Operating System	Windows
3	Front end	
4	Back end	Oracle11g

**b) Procedure for doing the experiment:**

Step no.	Details of the step
1	<b>DML COMMAND</b> DML commands are the most frequently used SQL commands and is used to query and manipulate the existing database objects. Some of the commands are Insert, Select, Update, Delete
2	<b>Insert Command</b> This is used to add one or more rows to a table. The values are separated by commas and the data types char and date are enclosed in apostrophes. The values must be entered in the same order as they are defined.
3	<b>Select Commands</b> It is used to retrieve information from the table. it is generally referred to as querying the table. We can either display all columns in a table or only specify column from the table.
4	<b>Update Command</b> It is used to alter the column values in a table. A single column may be updated or more than one column could be updated.
5	<b>Delete command</b> After inserting row in a table we can also delete them if required. The delete command consists of a from clause followed by an optional where clause.

**c) SQL Commands:**

### INSERT COMMAND

**Inserting a single row into a table:**

**Syntax:** insert into <table name> values (value list)

**Example:** insert into s values('s3','sup3','blore',10)

**Inserting more than one record using a single insert commands:**

**Syntax:** insert into <table name> values (&col1, &col2, ....)

**Example:** Insert into stud values(&reg, '&name', &percentage);

**Skipping the fields while inserting:**

Insert into <tablename(coln names to which datas to b inserted)> values (list of values);

Other way is to give null while passing the values.

## SELECT COMMANDS

### Selects all rows from the table

**Syntax:** Select \* from tablename;

**Example:** Select \* from IT;

### The retrieval of specific columns from a table:

It retrieves the specified columns from the table

**Syntax:** Select column\_name1, .....,column\_namen from table name;

**Example:** Select empno, empname from emp;

### Elimination of duplicates from the select clause:

It prevents retrieving the duplicated values .Distinct keyword is to be used.

**Syntax:** Select DISTINCT col1, col2 from table name;

**Example:** Select DISTINCT job from emp;

### Select command with where clause:

To select specific rows from a table we include 'where' clause in the select command. It can appear only after the 'from' clause.

**Syntax:** Select column\_name1, .....,column\_namen from table name where condition;

**Example:** Select empno, empname from emp where sal>4000;

### Select command with order by clause:

**Syntax:** Select column\_name1, .....,column\_namen from table name where condition  
order by colmnname;

**Example:** Select empno, empname from emp order by empno;

### Select command to create a table:

**Syntax:** create table tablename as select \* from existing\_tablename;

**Example:** create table emp1 as select \* from emp;

### Select command to insert records:

**Syntax:** insert into tablename ( select columns from existing\_tablename);

**Example:** insert into emp1 ( select \* from emp);

## UPDATE COMMAND

**Syntax:**update tablename set field=values where condition;

**Example:**Update emp set sal = 10000 where empno=135;

## DELETE COMMAND

**Syntax:** Delete from table where conditions;

**Example:**delete from emp where empno=135;

### d) Queries:

#### Q1: Insert a single record into dept table.

Solution:

- 1.Decide the data to add in dept.
- 2.Add to dept one row at a time using the insert into syntax.

**Ans:**

SQL> insert into dept values (1,'IT','Tholudur');

1 row created.

#### Q2: Insert more than a record into emp table using a single insert command.

**Ans:**

SQL> insert into emp values(&empno,&ename,&'&job',&deptno,&sal);

Enter value for empno: 1

Enter value for ename: Mathi

Enter value for job: AP

Enter value for deptno: 1

```

Enter value for sal: 10000
old 1: insert into emp values(&empno,&ename','&job',&deptno,&sal)
new 1: insert into emp values(1,'Mathi','AP',1,10000)
1 row created.
SQL> /
Enter value for empno: 2
Enter value for ename: Arjun
Enter value for job: ASP
Enter value for deptno: 2
Enter value for sal: 12000
old 1: insert into emp values(&empno,&ename','&job',&deptno,&sal)
new 1: insert into emp values(2,'Arjun','ASP',2,12000)
1 row created.
SQL> /
Enter value for empno: 3
Enter value for ename: Gagan
Enter value for job: ASP
Enter value for deptno: 1
Enter value for sal: 12000
old 1: insert into emp values(&empno,&ename','&job',&deptno,&sal)
new 1: insert into emp values(3,'Gagan','ASP',1,12000)
1 row created.

```

**Q3: Update the emp table to set the salary of all employees to Rs15000/- who are working as ASP**

**Ans:**

```

SQL> select * from emp;
  EMPNO ENAME      JOB      DEPTNO    SAL
-----
    1 Mathi        AP         1    10000
    2 Arjun        ASP        2    12000
    3 Gagan        ASP        1    12000
SQL> update emp set sal=15000 where job='ASP';
2 rows updated.
SQL> select * from emp;
  EMPNO ENAME      JOB      DEPTNO    SAL
-----
    1 Mathi        AP         1    10000
    2 Arjun        ASP        2    15000
    3 Gagan        ASP        1    15000

```

**Q4: Create a pseudo table employee with the same structure as the table emp and insert rows into the table using select clauses.**

**Ans:**

```

SQL> create table employee as select * from emp;
Table created.
SQL> desc employee;
Name                               Null?  Type
-----
EMPNO                               NUMBER(6)
ENAME                             NOT NULL VARCHAR2(20)
JOB                               NOT NULL VARCHAR2(13)
DEPTNO                             NUMBER(3)
SAL                               NUMBER(7,2)

```

**Q5: select employee name, job from the emp table**

**Ans:**

SQL> select ename, job from emp;

ENAME	JOB
-------	-----

Mathi	AP
Arjun	ASP
Gugan	ASP
Karthik	Prof
Akalya	AP
suresh	lect

6 rows selected.

**Q6: Delete only those who are working as lecturer**

**Ans:**

SQL> select \* from emp;

EMPNO	ENAME	JOB	DEPTNO	SAL
-------	-------	-----	--------	-----

1	Mathi	AP	1	10000
2	Arjun	ASP	2	15000
3	Gugan	ASP	1	15000
4	Karthik	Prof	2	30000
5	Akalya	AP	1	10000
6	suresh	lect	1	8000

6 rows selected.

SQL> delete from emp where job='lect';

1 row deleted.

SQL> select \* from emp;

EMPNO	ENAME	JOB	DEPTNO	SAL
-------	-------	-----	--------	-----

1	Mathi	AP	1	10000
2	Arjun	ASP	2	15000
3	Gugan	ASP	1	15000
4	Karthik	Prof	2	30000
5	Akalya	AP	1	10000

**Q7: List the records in the emp table orderby salary in ascending order.**

**Ans:**

SQL> select \* from emp order by sal;

EMPNO	ENAME	JOB	DEPTNO	SAL
-------	-------	-----	--------	-----

1	Mathi	AP	1	10000
5	Akalya	AP	1	10000
2	Arjun	ASP	2	15000
3	Gugan	ASP	1	15000
4	Karthik	Prof	2	30000

**Q8: List the records in the emp table orderby salary in descending order.**

**Ans:**

SQL> select \* from emp order by sal desc;

EMPNO	ENAME	JOB	DEPTNO	SAL
-------	-------	-----	--------	-----

4	Karthik	Prof	2	30000
2	Arjun	ASP	2	15000
3	Gugan	ASP	1	15000
1	Mathi	AP	1	10000
5	Akalya	AP	1	10000

**Q9: Display only those employees whose deptno is 30.**

Solution:

1. Use SELECT FROM WHERE syntax.

**Ans:**

SQL> select \* from emp where deptno=1;

EMPNO	ENAME	JOB	DEPTNO	SAL
1	Mathi	AP	1	10000
3	Gugan	ASP	1	15000
5	Akalya	AP	1	10000

**Q10: Display deptno from the table employee avoiding the duplicated values.**

Solution:

1. Use SELECT FROM syntax.
2. Select should include distinct clause for the deptno.

**Ans:**

SQL> select distinct deptno from emp;

DEPTNO
1
2

**e) Result:**

Thus the DML commands using from where clause was performed successfully and executed.

[You may skip copying the questions and answers, as they are for Viva practice.](#)

## QUESTIONS AND ANSWERS

### 1. What is DML?

DML commands are the most frequently used SQL commands and is used to query and manipulate the existing database objects.

### 2. What are DML command?

Some of the commands are Insert, Select, Update, Delet

### 3. Give the general form of SQL Queries? Select

A1, A2....., An

From R,1R2....., R

m Where P

### 4. What is the use of rename operation?

Rename operation is used to rename both relations and an attributes. It uses the as clause, taking the form: Old-name as new-name

### 5. Define tuple variable?

Tuple variables are used for comparing two tuples in the same relation. The tuple variables are defined in the from clause by way of the as clause.

### 6. Write the syntax to retrieve specific columns from a table:

**Syntax:** Select column\_name1, .....,column\_namen from table name;