EXERCISE-2

MANIPULATING DATA

OBJECTIVE

After, the completion of this exercise the students will be able to do the following

- Describe each DML statement
- Insert rows into tables
- Update rows into table
- Delete rows from table
- Control Transactions

A DML statement is executed when you:

- Add new rows to a table
- Modify existing rows
- Removing existing rows

A transaction consists of a collection of DML statements that form a logical unit of work.

To Add a New Row

INSERT Statement

Syntax

INSERT INTO table_name VALUES (column1 values, column2 values, …, columnn values);

Example:

INSERT INTO department (70, 'Public relations', 100,1700);

Inserting rows with null values

Implicit Method: (Omit the column)

```
INSERT INTO department VALUES (30,'purchasing');
```

Explicit Method: (Specify NULL keyword)

INSERT INTO department VALUES (100,'finance', NULL, NULL);

Inserting Special Values

Example:

Using SYSDATE

INSERT INTO employees VALUES (113,'louis', 'popp', 'lpopp','5151244567',SYSDATE, 'ac_account', 6900, NULL, 205, 100);

Inserting Specific Date Values

Example:

```
INSERT INTO employees VALUES ( 114,'den', 'raphealy', 'drapheal', '5151274561',
TO_DATE('feb 3,1999','mon, dd ,yyyy'), 'ac_account', 11000,100,30);
```

To Insert Multiple Rows

& is the placeholder for the variable value

Example:

```
INSERT INTO department VALUES (&dept_id, &dept_name, &location);
```

Copying Rows from another table

- Using Subquery

Example:

```
INSER INTO sales_reps(id, name, salary, commission_pct)
        SELECt employee_id, Last_name, salary, commission_pct
FROM employees
WHERE jod_id LIKE '%REP');
```

CHANGING DATA IN A TABLE

UPDATE Statement

Syntax1: (to update specific rows)

```
UPDATE table_name SET column=value WHERE condition;
```

Syntax 2: (To updae all rows)

```
UPDATE table_name SET column=value;
```

Updating columns with a subquery

```
UPDATE employees
SET job_id= (SELECT job_id
FROM employees
WHERE employee_id=205)
WHERE employee_id=114;
```

REMOVING A ROW FROM A TABLE

DELETE STATEMENT

Syntax

```
DELETE FROM table_name WHERE conditions;
```

Example:

```
    DELETE FROM department WHERE dept_name='finance'';
```

Find the Solution for the following:

1. Create MY_EMPLOYEE table with the following structure

NAME	NULL?	TYPE
ID	Not null	Number(4)
Last_name		Varchar(25)
First_name		Varchar(25)
Userid		Varchar(25)
Salary		Number(9,2)

```
CREATE TABLE MY_EMPLOYEE (
  ID NUMBER(4) NOT NULL,
  LAST_NAME VARCHAR2(25),
  FIRST_NAME VARCHAR2(25),
  USERID VARCHAR2(25),
  SALARY NUMBER(9,2)
);
```

```
DESC MY_EMPLOYEE;
Name        Null?   Type
------------ -------- -------------
ID          NOT NULL NUMBER(4)
LAST_NAME            VARCHAR2(25)
FIRST_NAME           VARCHAR2(25)
USERID             VARCHAR2(25)
SALARY              NUMBER(9,2)
```

2. Add the first and second rows data to MY_EMPLOYEE table from the following sample data.

ID	Last_name	First_name	Userid	salary
1	Patel	Ralph	rpatel	895
2	Dancs	Betty	bdancs	860
3	Biri	Ben	bbiri	1100
4	Newman	Chad	Cnewman	750
5	Ropebur	Audrey	aropebur	1550

```
INSERT INTO MY_EMPLOYEE (ID, LAST_NAME, FIRST_NAME, USERID, SALARY)
VALUES (1, 'Patel', 'Ralph', 'rpatel', 895);

INSERT INTO MY_EMPLOYEE (ID, LAST_NAME, FIRST_NAME, USERID, SALARY)
VALUES (2, 'Dancs', 'Betty', 'bdancs', 860);

SELECT * FROM MY_EMPLOYEE;
```

Output:

diff
Copy code

```
ID  LAST_NAME  FIRST_NAME  USERID   SALARY
--  ---------- ----------- -------  -------
1   Patel      Ralph       rpatel   895
```

```
2  Dancs     Betty     bdancs   860
```

3. Display the table with values.

SELECT * FROM MY_EMPLOYEE;
Output:

diff
Copy code

```
ID  LAST_NAME  FIRST_NAME  USERID   SALARY
--  ---------- ----------- -------  -------
1   Patel      Ralph       rpatel   895
2   Dancs      Betty       bdancs   860
```

4. Populate the next two rows of data from the sample data. Concatenate the first letter of the first_name with the first seven characters of the last_name to produce Userid.

```
INSERT INTO MY_EMPLOYEE (ID, LAST_NAME, FIRST_NAME, USERID, SALARY)
VALUES (3, 'Biri', 'Ben', LOWER(SUBSTR('Ben',1,1) || SUBSTR('Biri',1,7)), 1100);

INSERT INTO MY_EMPLOYEE (ID, LAST_NAME, FIRST_NAME, USERID, SALARY)
VALUES (4, 'Newman', 'Chad', LOWER(SUBSTR('Chad',1,1) || SUBSTR('Newman',1,7)), 750);

SELECT * FROM MY_EMPLOYEE;
```

Output:

diff
Copy code

```
ID  LAST_NAME  FIRST_NAME  USERID   SALARY
--  ---------- ----------- -------  -------
1   Patel      Ralph       rpatel   895
2   Dancs      Betty       bdancs   860
3   Biri       Ben         bbiri    1100
4   Newman     Chad        cnewman  750
```

5. Make the data additions permanent.

```
COMMIT;
```

```
SELECT * FROM MY_EMPLOYEE;
```

Output:

diff

Copy code

```
ID  LAST_NAME  FIRST_NAME  USERID   SALARY
--  ---------- ----------- -------  -------
1   Patel      Ralph       rpatel   895
2   Dancs      Betty       bdancs   860
3   Biri       Ben         bbiri    1100
4   Newman     Chad        cnewman  750
```

6. Change the last name of employee 3 to Drexler.

```
UPDATE MY_EMPLOYEE
SET LAST_NAME = 'Drexler'
WHERE ID = 3;

SELECT * FROM MY_EMPLOYEE;
```

Output:

diff

Copy code

```
ID  LAST_NAME  FIRST_NAME  USERID   SALARY
--  ---------- ----------- -------  -------
1   Patel      Ralph       rpatel   895
2   Dancs      Betty       bdancs   860
3   Drexler    Ben         bbiri    1100
4   Newman     Chad        cnewman  750
```

7. Change the salary to 1000 for all the employees with a salary less than 900.

```
UPDATE MY_EMPLOYEE
SET SALARY = 1000
WHERE SALARY < 900;

SELECT * FROM MY_EMPLOYEE;
```

Output:

yaml

Copy code

```
ID LAST_NAME  FIRST_NAME  USERID   SALARY
-- ---------- ----------- -------  -------
1  Patel      Ralph       rpatel   1000
2  Dancs      Betty       bdancs   1000
3  Drexler    Ben         bbiri    1100
4  Newman     Chad        cnewman  1000
```

8. Empty the fourth row of the emp table.

```
DELETE FROM MY_EMPLOYEE
WHERE FIRST_NAME = 'Betty' AND LAST_NAME = 'Dancs';


SELECT * FROM MY_EMPLOYEE;
```

Output:

yaml

Copy code

```
ID LAST_NAME  FIRST_NAME  USERID   SALARY
-- ---------- ----------- -------  -------
1  Patel      Ralph       rpatel   1000
3  Drexler    Ben         bbiri    1100
```

```
4  Newman   Chad     cnewman  1000
```

Evaluation Procedure	Marks awarded
Query(5)	
Execution (5)	
Viva(5)	
Total (15)	
Faculty Signature	