

DATABASE MANAGEMENT SYSTEMS RECORD

ROLL NO 32

EX NO 1:

1. Create the DEPT table based on the DEPARTMENT following the table instance chart below. Confirm that the table is created.

QUERY:

```
create table dept(
    id number(7),
    name varchar(25)
);
```

OUTPUT:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|--------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| DEPT | ID | NUMBER | - | 7 | 0 | - | ✓ | - | - |
| | NAME | VARCHAR2 | 50 | - | - | - | ✓ | - | - |

2. Create the EMP table based on the following instance chart. Confirm that the table is Created.

QUERY:

```
create table emp(
    id number(7),
    last_name varchar(25),
    first_name varchar(25),
    dept_id varchar(7)
);
```

OUTPUT:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EMP | ID | NUMBER | - | 7 | 0 | - | ✓ | - | - |
| | LAST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | FIRST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | DEPT_ID | VARCHAR2 | 7 | - | - | - | ✓ | - | - |

3. Modify the EMP table to allow for longer employee last names. Confirm the modification.(Hint: Increase the size to 50)

QUERY:

```
ALTER TABLE emp  
MODIFY last_name VARCHAR(50);
```

OUTPUT:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EMP | ID | NUMBER | - | 7 | 0 | - | ✓ | - | - |
| | LAST_NAME | VARCHAR2 | 50 | - | - | - | ✓ | - | - |
| | FIRST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | DEPT_ID | VARCHAR2 | 7 | - | - | - | ✓ | - | - |

4. Create the EMPLOYEES2 table based on the structure of EMPLOYEES table. Include

Only the Employee_id, First_name, Last_name, Salary and Dept_id columns. Name the columns Id, First_name, Last_name, salary and Dept_id respectively.

QUERY:

```
CREATE TABLE EMPLOYEES2(  
    ID NUMBER(7),  
    FIRST_NAME VARCHAR(25),  
    LAST_NAME VARCHAR(25),  
    SALARY NUMBER(8,2),  
    DEPT_ID NUMBER(4)  
);|
```

OUTPUT:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|------------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EMPLOYEES2 | ID | NUMBER | - | 7 | 0 | - | ✓ | - | - |
| | FIRST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | LAST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | SALARY | NUMBER | - | 8 | 2 | - | ✓ | - | - |
| | DEPT_ID | NUMBER | - | 4 | 0 | - | ✓ | - | - |

5. Drop the EMP table.

QUERY:

```
DROP TABLE EMP;
```

OUTPUT:

```
Table dropped.
```

```
0.07 seconds
```

6. Rename the EMPLOYEES2 table as EMP.

QUERY:

```
RENAME EMPLOYEES2 TO EMP;
```

OUTPUT:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EMP | ID | NUMBER | - | 7 | 0 | - | ✓ | - | - |
| | FIRST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | LAST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | SALARY | NUMBER | - | 8 | 2 | - | ✓ | - | - |
| | DEPT_ID | NUMBER | - | 4 | 0 | - | ✓ | - | - |

7. Add a comment on DEPT and EMP tables. Confirm the modification by describing the table.

QUERY:

```
COMMENT ON TABLE DEPT IS 'DEPARTMENT TABLE';
```

```
COMMENT ON TABLE EMP IS 'EMPLOYEE TABLE';
```

OUTPUT:

| TABLE_NAME | TABLE_TYPE | COMMENTS | ORIGIN_CON_ID |
|------------|------------|------------------|---------------|
| DEPT | TABLE | DEPARTMENT TABLE | 3 |

| TABLE_NAME | TABLE_TYPE | COMMENTS | ORIGIN_CON_ID |
|------------|------------|----------------|---------------|
| EMP | TABLE | EMPLOYEE TABLE | 3 |

8. Drop the First_name column from the EMP table and confirm it.

QUERY:

```
ALTER TABLE EMP DROP COLUMN FIRST_NAME;
```

OUTPUT:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|-----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EMP | ID | NUMBER | - | 7 | 0 | - | ✓ | - | - |
| | LAST_NAME | VARCHAR2 | 25 | - | - | - | ✓ | - | - |
| | SALARY | NUMBER | - | 8 | 2 | - | ✓ | - | - |
| | DEPT_ID | NUMBER | - | 4 | 0 | - | ✓ | - | - |

Ex no 2:

Find the Solution for the following:

1. Create MY_EMPLOYEE table with the following structure

Query:

```
create table My_employee(
    id number(4) not null,
    last_name varchar(25),
    first_name varchar(25),
    userid varchar(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

Query:

```
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);
```

3. Display the table with values.

Query:

```
select * from my_employee;
```

Output:

| 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.

Query:

```
insert into my_employee(id,last_name,first_name,userid,salary)values(3,'biri','ben','bbiri',1100);
insert into my_employee(id,last_name,first_name,userid,salary)values(4,'newman','chad','cnewman',750);
```

```
update my_employee set userid=substr(first_name,1,1)||substr(last_name,1,7);
```

Output:

| 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.

Query:

```
commit;
```

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

Query:

```
update my_employee set last_name='drexler' where id =3;
```

Output:

| ID | LAST_NAME | FIRST_NAME | USERID | SALARY |
|----|-----------|------------|--------|--------|
| 3 | drexler | ben | bbiri | 1100 |

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

Query:

```
update my_employee set salary=1000 where salary < 900;
```

Output:

| 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. Delete Betty dancs from MY_EMPLOYEE table.

Query:

```
delete from my_employee where first_name='betty' and last_name='dancs';
```

Output:

| ID | LAST_NAME | FIRST_NAME | USERID | SALARY |
|----|-----------|------------|---------|--------|
| 1 | patel | ralph | rpatel | 1000 |
| 3 | drexler | ben | bbiri | 1100 |
| 4 | newman | chad | cnewman | 1000 |

9. Empty the fourth row of the emp table.

Query:

```
update my_employee set last_name =null,first_name=null,userid=null,salary=null where id=4;|
```

Output:

| ID | LAST_NAME | FIRST_NAME | USERID | SALARY |
|----|-----------|------------|--------|--------|
| 1 | patel | ralph | rpatel | 1000 |
| 3 | drexler | ben | bbiri | 1100 |
| 4 | - | - | - | - |

Ex no 3:

Find the Solution for the following:

1. Add a table-level PRIMARY KEY constraint to the EMP table on the ID column.The

constraint should be named at creation. Name the constraint my_emp_id_pk.

Query:

```
create table emp(
    id number(6),
    name varchar(25),
    jobid varchar(8),
    constraint my_emp_id_pk primary key(id)
);
```

2. Create a PRIMAY KEY constraint to the DEPT table using the ID colum. The constraint should be named at creation. Name the constraint my_dept_id_pk.

Query:

```
create table dept(
    id number(4),
    name varchar(25),
    userid number(10),
    constraint my_dept_id_pk primary key(id)
);
```

3.Add a column DEPT_ID to the EMP table. Add a foreign key reference on the EMP table that ensures that the employee is not assigned to nonexistent deparment. Name the constraint my_emp_dept_id_fk.

Query:

```
alter table emp add dept_id number(10);
alter table emp add constraint my_emp_dept_id_fk foreign key(dept_id) references dept_id;
```

4. Modify the EMP table. Add a COMMISSION column of NUMBER data type, precision 2, scale 2. Add a constraint to the commission column that ensures that a commission value is greater than zero.

Query:

```
alter table emp add commission number(2,2);
alter table emp add constraint chk_commission_positive check(commission>0);
```