

Ex.No.: 4	WORKING WITH CONSTRAINTS
Date:	

## OBJECTIVE

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

- Describe the constraints
- Create and maintain the constraints

What are Integrity constraints?

- Constraints enforce rules at the table level.
- Constraints prevent the deletion of a table if there are dependencies

The following types of integrity constraints are valid

a) Domain Integrity

- ✓ NOT NULL
- ✓ CHECK

b) Entity Integrity

- ✓ UNIQUE
- ✓ PRIMARY KEY

c) Referential Integrity

- ✓ FOREIGN KEY

Constraints can be created in either of two ways

1. At the same time as the table is created
2. After the table has been created.

## Defining Constraints

Create table tablename (column\_name1 data\_type constraints, column\_name2 data\_type constraints ...);

### Example:

Create table employees ( employee\_id number(6), first\_name varchar2(20), ..job\_id varchar2 (10), CONSTRAINT emp\_emp\_id\_pk PRIMARY KEY (employee\_id));

(OR)

ALTER TABLE test1 DROP(pk, fk, col1) CASCADE CONSTRAINTS;

### VIEWING CONSTRAINTS

Query the USER\_CONSTRAINTS table to view all the constraints definition and names.

#### Example:

```
SELECT constraint_name, constraint_type, search_condition FROM user_constraints  
WHERE table_name='employees';
```

#### Viewing the columns associated with constraints

```
SELECT constraint_name, constraint_type, FROM user_cons_columns  
WHERE table_name='employees';
```

#### 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.

```
ALTER TABLE emp ADD CONSTRAINT my_emp_id_pk  
PRIMARY KEY(id);
```

2. Create a PRIMARY KEY constraint to the DEPT table using the ID column. The constraint should be named at creation. Name the constraint my\_dept\_id\_pk.

```
ALTER TABLE dept ADD 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 department. Name the constraint my\_emp\_dept\_id\_fk.

```
ALTER TABLE emp ADD dept_id number;  
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.

```
ALTER TABLE emp ADD commission number(2,2);  
ALTER TABLE emp ADD CONSTRAINT emp-commission-ck  
CHECK (commission > 0);
```

Evaluation Procedure	Marks awarded
Query(5)	5
Execution (5)	5
Viva(5)	4
Total (15)	14
Faculty Signature	