AIM: To include constraints in the table.

6/9/25

EXERCISE-3

INCLUDING CONSTRAINTS

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

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 Employee
ADD constraint my_emp_id_pk
Primary Key (ID);
```

output:
Table altered

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.

```
ALTER TABLE dept
ADD CONSTRAINT my_dept_id_pk
PRIMARY KEY(ID);
```

output:
Table altered

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.

output:
Table altered

```
Alter Table employee ADD Dept_ID Number;
Alter Table employee 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 employee
ADD CONSTRAINT chk_commision
CHECK (COMMISSION>0)
```

output:
Table altered

RESULT:

Thus the constraints are created and described.

Evaluation Procedure	Marks awarded
Query(5)	5
Execution (5)	5
Viva(5)	3
Total (15)	13
Faculty Signature	

PRACTICE QUESTIONS

Limit Rows Selected

1. Using the Global Fast Foods database, retrieve the customer's first name, last name, and address for the customer who uses ID 456.

```
select f_name, l_name, address from customers
where customer_id = 456;
```

2. Show the name, start date, and end date for Global Fast Foods' promotional item "ballpen and highlighter" giveaway.

```
select promo_name, start_date, end_date FROM
promotions where promo_name = 'ballpen and highlighter
                              give away';
```

3. Create a SQL statement that produces the following output:

Oldest
The 1997 recording in our database is The Celebrants Live in Concert

```
select 'The 1997 recording in our database is the
celebrants Live in Concert' AS oldest from dual;
```

4. The following query was supposed to return the CD title "Carpe Diem" but no rows were returned. Correct the mistake in the statement and show the output.

```
SELECT produce, title
FROM d_cds
WHERE title = 'carpe diem';
```

```
select producer, title
from d_cds where title = 'carpe
Diem';
```

5. The manager of DJs on Demand would like a report of all the CD titles and years of CDs that were produced before 2000.

Select title, year from CDs where year<2000;

6. Which values will be selected in the following query?

```
SELECT salary
FROM employees
WHERE salary < = 5000;
```

a. 5000
b. 0 - 4999
c. 2500
d. 5

7. Write a SQL statement that will display the student number (studentno), first name (fname), and last name (lname) for all students who are female (F) in the table named students.

Select student no, fname, lname from students where gender = 'F';

8. Write a SQL statement that will display the student number (studentno) of any student who has a PE major in the table named students. Title the studentno column Student Number.

Select student no AS "Student Number" FROM students where major = 'PE';

9. Write a SQL statement that lists all information about all male students in the table named students.

Select * FROM students where gender = 'M';

10. Write a SQL statement that will list the titles and years of all the DJs on Demand's CDs that were not produced in 2000.

select title, year from CDs where producer = 'DJs on Demand' AND year <> 2000;

11. Write a SQL statement that lists the Global Fast Foods employees who were born before 1980.

Select * FROM employees where employer = 'Global Fast Foods' AND birth - year < 1980;

Evaluation Procedure	Marks awarded

Practice Evaluation (5)	5
Viva(5)	5
Total (10)	10
Faculty Signature	