

```
SQL> CREATE TABLE Employee_23BAI1242 (  
2     Emp_No NUMBER PRIMARY KEY,  
3     E_Name VARCHAR2(100),  
4     Experience NUMBER,  
5     City VARCHAR2(100),  
6     Dno NUMBER  
7 );
```

Table created.

```
SQL> CREATE TABLE Emp_Sal_23BAI1242 (  
2     Emp_No NUMBER PRIMARY KEY,  
3     Basic NUMBER,  
4     Deduction NUMBER,  
5     Gross_Salary NUMBER,  
6     FOREIGN KEY (Emp_No) REFERENCES Employee_23BAI1242(Emp_No)  
7 );
```

Table created.

```
SQL> CREATE TABLE Emp_Sal_Deleted_23BAI1242 (  
2     Emp_No NUMBER,  
3     Basic NUMBER,  
4     Deduction NUMBER,  
5     Gross_Salary NUMBER,  
6     Deleted_At TIMESTAMP  
7 );
```

Table created.

```

SQL> CREATE OR REPLACE TRIGGER trg_show_name_change_23BAI1242
  2  AFTER UPDATE OF E_Name
  3  ON Employee_23BAI1242
  4  FOR EACH ROW
  5  BEGIN
  6      DBMS_OUTPUT.PUT_LINE('Old E_Name: ' || :OLD.E_Name);
  7      DBMS_OUTPUT.PUT_LINE('New E_Name: ' || :NEW.E_Name);
  8  END;
  9  /

```

Trigger created.

```

SQL> CREATE OR REPLACE TRIGGER trg_insert_deleted_23BAI1242
  2  AFTER DELETE
  3  ON Emp_Sal_23BAI1242
  4  FOR EACH ROW
  5  BEGIN
  6      INSERT INTO Emp_Sal_Deleted_23BAI1242 (Emp_No, Basic, Dedu
  7      VALUES (:OLD.Emp_No, :OLD.Basic, :OLD.Deduction, :OLD.Gros
  8  END;
  9  /

```

Trigger created.

```

SQL> SET SERVEROUTPUT ON;
SQL> INSERT INTO Employee_23BAI1242 (Emp_No, E_Name, Experience,
  2  VALUES (1, 'John Doe', 5, 'New York', 101);

```

1 row created.

```

SQL> UPDATE Employee_23BAI1242
  2  SET E_Name = 'Jane Doe'
  3  WHERE Emp_No = 1;
Old E_Name: John Doe
New E_Name: Jane Doe

```

1 row updated.

```
SQL> INSERT INTO Emp_Sal_23BAI1242 (Emp_No, Basic, Deduction, Gross_Salary)
2 VALUES (1, 5000, 500, 4500);
```

1 row created.

```
SQL> DELETE FROM Emp_Sal_23BAI1242
2 WHERE Emp_No = 1;
```

1 row deleted.

```
SQL> SELECT * FROM Emp_Sal_Deleted_23BAI1242;
```

EMP_NO	BASIC	DEDUCTION	GROSS_SALARY
1	5000	500	4500
DELETED_AT			
10-MAR-25 05.02.31.000000 PM			

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SQL> connect system

Enter password:

Connected.

```
SQL> CREATE TABLE Student_23BAI1242 (  
  2   Register_No NUMBER PRIMARY KEY,  
  3   Name VARCHAR2(100),  
  4   Marks_Subject1 NUMBER,  
  5   Marks_Subject2 NUMBER,  
  6   Marks_Subject3 NUMBER,  
  7   Marks_Subject4 NUMBER,  
  8   Marks_Subject5 NUMBER  
  9 );
```

Table created.

```
SQL> INSERT INTO Student_23BAI1242 (Register_No, Name, Marks_Subj  
  2 VALUES (1, 'Yash', 45, 50, 60, 55, 70);
```

1 row created.

```
SQL> INSERT INTO Student_23BAI1242 (Register_No, Name, Marks_Subj  
  2 VALUES (2, 'Sanskar', 30, 45, 35, 60, 65);
```

1 row created.

```
SQL> INSERT INTO Student_23BAI1242 (Register_No, Name, Marks_Subj  
  2 VALUES (3, 'Nitya', 50, 55, 45, 70, 75);
```

1 row created.

```
SQL> INSERT INTO Student_23BAI1242 (Register_No, Name, Marks_Subj  
  2 VALUES (4, 'Nikhil', 20, 35, 40, 55, 60);
```

1 row created.

```
SQL> INSERT INTO Student_23BAI1242 (Register_No, Name, Marks_Subj  
2 VALUES (5, 'Soham', 55, 60, 50, 65, 80);
```

1 row created.

```
SQL> SET SERVEROUTPUT ON;  
SQL> DECLARE  
2     CURSOR student_cursor_23BAI1242 IS  
3     SELECT Name, Marks_Subject1, Marks_Subject2, Marks_Subj  
4     FROM Student_23BAI1242  
5     WHERE Marks_Subject1 > 40 AND Marks_Subject2 > 40 AND Ma  
6  
7     student_record student_cursor_23BAI1242%ROWTYPE;  
8     average_marks NUMBER;  
9 BEGIN  
10    OPEN student_cursor_23BAI1242;  
11  
12    LOOP  
13        FETCH student_cursor_23BAI1242 INTO student_record;  
14        EXIT WHEN student_cursor_23BAI1242%NOTFOUND;  
15  
16        average_marks := (student_record.Marks_Subject1 + studen  
17  
18        DBMS_OUTPUT.PUT_LINE('Name: ' || student_record.Name);  
19        DBMS_OUTPUT.PUT_LINE('Marks: ' || student_record.Marks_5  
student_record.Marks_Subject5);  
20        DBMS_OUTPUT.PUT_LINE('Average Marks: ' || average_marks);  
21        DBMS_OUTPUT.PUT_LINE('-----');  
22    END LOOP;  
23  
24    CLOSE student_cursor_23BAI1242;  
25 END;  
26 /
```

```
23
24     CLOSE student_cursor_23BAI1242;
25 END;
26 /

Name: Yash
Marks: 45, 50, 60, 55, 70
Average Marks: 56
-----

Name: Nitya
Marks: 50, 55, 45, 70, 75
Average Marks: 59
-----

Name: Soham
Marks: 55, 60, 50, 65, 80
Average Marks: 62
-----

PL/SQL procedure successfully completed.

SQL> |
```

6b

```
SQL> CREATE TABLE Student_Course_BAI1242 (  
  2     Roll_No NUMBER PRIMARY KEY,  
  3     Course VARCHAR2(100),  
  4     Course_Code VARCHAR2(20),  
  5     Sem VARCHAR2(10),  
  6     Total_Marks NUMBER,  
  7     Percentage NUMBER  
  8 );
```

Table created.

```
SQL>  
SQL> CREATE TABLE Employee_BAI1242 (  
  2     Emp_No NUMBER PRIMARY KEY,  
  3     E_Name VARCHAR2(100),  
  4     Experience NUMBER,  
  5     City VARCHAR2(100),  
  6     Dno NUMBER  
  7 );
```

Table created.

```
SQL>  
SQL> CREATE TABLE Emp_Sal_BAI1242 (  
  2     Emp_No NUMBER PRIMARY KEY,  
  3     Basic NUMBER,  
  4     Deduction NUMBER,  
  5     Gross_Salary NUMBER,  
  6     FOREIGN KEY (Emp_No) REFERENCES Employee_BAI1242(Emp_No)  
  7 );
```

Table created.

```
SQL>  
SQL> CREATE TABLE Department_BAI1242 (  
  2     Dname VARCHAR2(100),  
  3     Dnumber NUMBER PRIMARY KEY,  
  4     MGRSSN NUMBER  
  5 );
```

Table created.

```

SQL> CREATE OR REPLACE PROCEDURE Get_Percentage_Ranges_BAI1242 (
  2     v_count_100_70 NUMBER;
  3     v_count_69_60 NUMBER;
  4     v_count_59_50 NUMBER;
  5     v_count_below_49 NUMBER;
  6 BEGIN
  7     SELECT COUNT(*) INTO v_count_100_70
  8     FROM Student_Course_BAI1242
  9     WHERE Course = p_course AND Percentage BETWEEN 70 AND 100;
10
11     SELECT COUNT(*) INTO v_count_69_60
12     FROM Student_Course_BAI1242
13     WHERE Course = p_course AND Percentage BETWEEN 60 AND 69;
14
15     SELECT COUNT(*) INTO v_count_59_50
16     FROM Student_Course_BAI1242
17     WHERE Course = p_course AND Percentage BETWEEN 50 AND 59;
18
19     SELECT COUNT(*) INTO v_count_below_49
20     FROM Student_Course_BAI1242
21     WHERE Course = p_course AND Percentage < 50;
22
23     DBMS_OUTPUT.PUT_LINE('Percentage Range 70-100%: ' || v_count_100_70);
24     DBMS_OUTPUT.PUT_LINE('Percentage Range 60-69%: ' || v_count_69_60);
25     DBMS_OUTPUT.PUT_LINE('Percentage Range 50-59%: ' || v_count_59_50);
26     DBMS_OUTPUT.PUT_LINE('Percentage Below 50%: ' || v_count_below_49);
27 END;
28 /

```

Procedure created.

```

SQL> CREATE OR REPLACE FUNCTION Factorial_BAI1242 (n IN NUMBER)
  2 BEGIN
  3     IF n = 0 THEN
  4         RETURN 1;
  5     ELSE
  6         RETURN n * Factorial_BAI1242(n - 1);
  7     END IF;
  8 END;
  9 /

```

Function created.



```

SQL> CREATE OR REPLACE PROCEDURE Update_Dno_BAI1242 (p_emp_no IN
2  BEGIN
3      UPDATE Employee_BAI1242
4      SET Dno = p_new_dno
5      WHERE Emp_No = p_emp_no;
6
7      COMMIT;
8  END;
9  /

```

Procedure created.

```

SQL> CREATE OR REPLACE FUNCTION Count_Employees_BAI1242 (p_dno IN
2  v_emp_count NUMBER;
3  BEGIN
4      SELECT COUNT(*) INTO v_emp_count
5      FROM Employee_BAI1242
6      WHERE Dno = p_dno;
7
8      RETURN v_emp_count;
9  END;
10 /

```

Function created.

```
SQL> SELECT Factorial_BAI1242(5) FROM DUAL;
```

```

FACTORIAL_BAI1242(5)
-----
                120

```

```
SQL> SELECT Count_Employees_BAI1242(10) FROM DUAL;
```

```

COUNT_EMPLOYEES_BAI1242(10)
-----
                        0

```

```
SQL> INSERT INTO Student_Course_BAI1242 (Roll_No, Course, Course.
  2  VALUES (1, 'Computer Science', 'CS101', '1', 450, 80);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Student_Course_BAI1242 (Roll_No, Course, Course.
  2  VALUES (2, 'Computer Science', 'CS101', '1', 400, 65);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Student_Course_BAI1242 (Roll_No, Course, Course.
  2  VALUES (3, 'Computer Science', 'CS101', '1', 375, 55);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Student_Course_BAI1242 (Roll_No, Course, Course.
  2  VALUES (4, 'Computer Science', 'CS101', '1', 320, 45);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Student_Course_BAI1242 (Roll_No, Course, Course.
  2  VALUES (5, 'Computer Science', 'CS101', '1', 290, 30);
```

1 row created.

```
SQL> SELECT Count_Employees_BAI1242(10) FROM DUAL;
```

```
COUNT_EMPLOYEES_BAI1242(10)
```

```
-----
```

```
2
```

```
SQL> SET SERVEROUTPUT ON;  
SQL> EXEC Get_Percentage_Ranges_BAI1242('Computer Science');  
Percentage Range 70-100%: 1  
Percentage Range 60-69%: 1  
Percentage Range 50-59%: 1  
Percentage Below 50%: 2
```

```
PL/SQL procedure successfully completed.
```

```
SQL> SET SERVEROUTPUT ON;  
SQL> EXEC Update_Dno_BAI1242(1, 10);
```

```
PL/SQL procedure successfully completed.
```

```
SQL> INSERT INTO Employee_BAI1242 (Emp_No, E_Name, Experience, C  
2  VALUES (1, 'Alice', 5, 'New York', 10);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Employee_BAI1242 (Emp_No, E_Name, Experience, C  
2  VALUES (2, 'Bob', 3, 'Los Angeles', 10);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Employee_BAI1242 (Emp_No, E_Name, Experience, C  
2  VALUES (3, 'Charlie', 8, 'Chicago', 20);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Employee_BAI1242 (Emp_No, E_Name, Experience, C  
2  VALUES (4, 'David', 6, 'Houston', 20);
```

1 row created.

```
SQL>
```

```
SQL> INSERT INTO Employee_BAI1242 (Emp_No, E_Name, Experience, C  
2  VALUES (5, 'Eve', 2, 'Phoenix', 30);
```

1 row created.

```
SQL> SELECT * FROM Employee_BAI1242 WHERE Emp_No = 1;
```

EMP_NO
--------

E_NAME
--------

EXPERIENCE
------------

CITY
------

DNO
-----

1
---

Alice
-------

5
---

EMP_NO
--------

E_NAME
--------

EXPERIENCE
------------

CITY
------

DNO
-----

New York
----------

10
----

```
SQL> SELECT * FROM Employee_BAI1242;
```

```
EMP_NO
-----
E_NAME
-----
EXPERIENCE
-----
CITY
-----
```

```
DNO
-----
1
Alice
5
```

```
EMP_NO
-----
E_NAME
-----
EXPERIENCE
-----
CITY
-----
```

```
DNO
-----
New York
10
```

```
EMP_NO
-----
E_NAME
-----
EXPERIENCE
-----
CITY
-----
```

```
CITY
-----
DNO
-----
```

"

4

David

6

EMP\_NO

E\_NAME

EXPERIENCE

CITY

DNO

Houston

20

EMP\_NO

E\_NAME

EXPERIENCE

CITY

DNO

5

Eve

2

EMP\_NO

E\_NAME

EXPERIENCE

CITY

DNO

Phoenix

30

SQL> |