EX.NO:12 03 .05.2025	PROCEDURE AND FUNCTIONS

AIM:

To perform simple Procedures and functions using PL/SQL.

PL/SQL:Procedural Language/Structural Query Language.

PL/SQL is,

To add programming logic to SQL

To create triggers

A PL/SQL procedure can be,

Named block

Unnamed block

The part in a block are,

Declaration part

Execution part

Execution part(optional)

CREATE TABLE:

```
SQL> CREATE TABLE cirf (
      r NUMBER(5,0),
      cirf NUMBER(7,5)
   );
Table created.
```

A SIMPLE PL/SQL PROCEDURE:

```
SQL> DECLARE
       pi CONSTANT NUMBER := 3.14;
       r INTEGER := 5;
       cirf NUMBER(7,3);
   BEGIN
```

```
      cirf := 2 * pi * r;
    INSERT INTO cirf values(r, cirf)

  END;
  /
PL/SQL procedure successfully completed.
SQL> select * from cirf;

   R                 CIRF
  ----------     -------------------------
       5                  31.400
```

PL/SQL PROCEDURE WITH FOR LOOP:

```
 SQL> DECLARE
      pi CONSTANT NUMBER := 3.14;
      cirf_value NUMBER(7,3);
   BEGIN
     FOR r IN 1..7 LOOP
         cirf_value := 2 * pi * r;
        INSERT INTO cirf values (r, cirf)
    END LOOP;
  END;
  /
PL/SQL procedure successfully completed.
SQL> select * from cirf;
R      CIRF
----------       ----------------------
       1                   6.280
       2                  12.560
       3                  18.840
       4                  25.120
       5                   31.40
       6                  37.680
       7                  43.960
```

PL/SQL PROCEDURE WITH WHILE LOOP:

```
SQL> DECLARE
       pi CONSTANT NUMBER := 3.14;

       r INTEGER := 1;  -- Start r at 1
       cirf NUMBER(7,3);
   BEGIN
       WHILE r <= 7 LOOP
          cirf := 2 * pi * r;

         INSERT INTO cirf (r, cirf)
          VALUES (r, cirf);
        r := r + 1;
      END LOOP;

  END;
  /
```

PL/SQL procedure successfully completed.

```
SQL> select * from cirf;

    R          CIRF
  ----------     ----------
       1                6.280
       2               12.560
       3               18.840
       4               25.120
       5                31.40
       6               37.680
       7               43.960
```

7 rows selected.

PL/SQL PROCEDURE WITH EXCEPTION:

```
SQL> DECLARE
   pi CONSTANT NUMBER := 3.14;
   r INTEGER(5);
   cirf NUMBER(7,5);
   temp NUMBER(7,5);
BEGIN
   r := 5;
   WHILE r <= 8 LOOP
      temp := 1 / (r - 4);
      cirf := 2 * pi * r;
      INSERT INTO cirf VALUES (r, cirf);
      r := r + 1;
   END LOOP;
EXCEPTION
   WHEN ZERO_DIVIDE THEN
      INSERT INTO cirf VALUES (0, 0);
END;
/
PL/SQL procedure successfully completed.
SQL> select * from cirf;
   R                CIRF
---------------   -------------------------
   5             31.40000
   6             37.68000
   7             43.96000
   8             50.24000
```

CONTENTS	MARKS ALLOTED	MARKS OBTAINED
Aim,algorithm,SQL,PL/SQL	30	
Execution and Result	20	
Viva	10	
Total	60	

RESULT:

Thus, the simple procedures and functions using PL/SQL were executed successfully with various approaches