DBMS LABORATORY

LAB RECORD 9

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SECTION : CSE - 16

ROLL : 2005643

DATE : 03/05/2022

ASSIGNMENT ON PLSQL-CURSOR

QUESTIONS :

1. FOR LOOP EXAMPLE :

Q- Print the numbers 1 to 5 using For Loop

PROGRAM CODE :

```
-- Print 1 to 5 using FOR LOOP

BEGIN
  FOR l_counter IN 1..5
  LOOP
    DBMS_OUTPUT.PUT_LINE( l_counter );
  END LOOP;
END;
/
```

OUTPUT :

```
SQL> ed plsql.txt

SQL> set serveroutput on;
SQL> @plsql.txt
1
2
3
4
5

PL/SQL procedure successfully completed.
```

2. WHILE LOOP EXAMPLE :

Q- Find the factorial of a number using While Loop

PROGRAM CODE :

```
DECLARE
n  NUMBER := &n;
f NUMBER := 1;
temp NUMBER;
BEGIN
temp := n;
WHILE n > 0
LOOP
f := f * n;
n   := n - 1;
END LOOP;

DBMS_OUTPUT.PUT_LINE('factorial of ' || temp ||' is ' || f);

END;
/
```

OUTPUT :

```
SQL> ed plsql86.txt

SQL> @plsql86.txt
Enter value for n: 5
old   2: n  NUMBER := &n;
new   2: n  NUMBER := 5;
factorial of 5 is 120

PL/SQL procedure successfully completed.
```

3. EXPLICIT AND IMPLICIT CURSOR EXAMPLE :

Table used for this question :

```
SQL> select * from emp;

     EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7369 SMITH      CLERK           7902 17-DEC-80        800                    20
      7499 ALLEN      SALESMAN        7698 20-FEB-81       1600        300         30
      7521 WARD       SALESMAN        7698 22-FEB-81       1250        500         30
      7566 JONES      MANAGER         7839 02-APR-81       2975                    20
      7654 MARTIN     SALESMAN        7698 28-SEP-81       1250       1400         30
      7698 BLAKE      MANAGER         7839 01-MAY-81       2850                    30
      7782 CLARK      MANAGER         7839 09-JUN-81       2450                    10
      7788 SCOTT      ANALYST         7566 09-NOV-81       3000                    20
      7839 KING       PRESIDENT            17-NOV-81       5000                    10
      7844 TURNER     SALESMAN        7698 08-SEP-81       1500          0         30
      7876 ADAMS      CLERK           7788 23-SEP-81       1100                    20
      7900 JAMES      CLERK           7698 03-DEC-81        950                    30
      7902 FORD       ANALYST         7566 03-DEC-81       3000                    20
      7934 MILLER     CLERK           7782 23-JAN-82       1300                    10
      5643 ANIRBAN

15 rows selected.
```

EXPLICIT CURSOR :

PROGRAM CODE :

```
DECLARE
  e_empno emp.empno%type;
  e_ename emp.ename%type;
    CURSOR e_emp is
    SELECT empno, ename FROM emp;
BEGIN
  OPEN e_emp;
  LOOP
  FETCH e_emp into e_empno, e_ename;
    EXIT WHEN e_emp%notfound;
    dbms_output.put_line(e_empno || ' ' || e_ename );
  END LOOP;
  CLOSE e_emp;
END;
/
```

OUTPUT :

```
SQL> ed plsql.txt

SQL> set serveroutput on;
SQL> @plsql.txt
7369 SMITH
7499 ALLEN
7521 WARD
7566 JONES
7654 MARTIN
7698 BLAKE
7782 CLARK
7788 SCOTT
7839 KING
7844 TURNER
7876 ADAMS
7900 JAMES
7902 FORD
7934 MILLER
5643 ANIRBAN

PL/SQL procedure successfully completed.
```

IMPLICIT CURSOR :

PROGRAM CODE :

```
DECLARE
        total_rows number(2);
BEGIN

UPDATE  emp
  SET sal = sal + 500;
  IF sql%notfound THEN
    dbms_output.put_line('No employees updated');
  ELSIF sql%found THEN
    total_rows := sql%rowcount;
    dbms_output.put_line( total_rows || ' employees updated ');
  END IF;

END;
/
```

OUTPUT :

```
SQL> ed plsql.txt

SQL> @plsql.txt
15 employees updated

PL/SQL procedure successfully completed.
```

4. DIVIDE BY 0 EXCEPTION :

PROGRAM CODE :

```
declare
   v_sum    number := 10;
   v_divide number := 0;
   v_result number;
begin
   v_result := v_sum / v_divide;
   dbms_output.put_line('v_result: '||v_result);
exception
   when zero_divide then
   dbms_output.put_line('ZERO_DIVIDE: '||sqlerrm);
end;
/
```

OUTPUT :

```
SQL> ed plsql.txt

SQL> @plsql.txt
ZERO_DIVIDE: ORA-01476: divisor is equal to zero

PL/SQL procedure successfully completed.
```

5. CURSOR ALREADY OPEN EXCEPTION EXAMPLE :

PROGRAM CODE :

```
declare
mar number;
cursor c1 is select mark from std99 where roll=2;
begin
open c1;
fetch c1 into mar;
open c1;
dbms_output.put_line('mark is : '||mar);
exception
when CURSOR_ALREADY_OPEN then
dbms_output.put_line('CURSOR IS ALREADY OPENED BEFORE FETCH STATEMENT');
end;
/
```

OUTPUT :

```
SQL> ed plsql.txt

SQL> @plsql.txt
CURSOR IS ALREADY OPENED BEFORE FETCH STATEMENT

PL/SQL procedure successfully completed.
```

6. ONE STAR PATTERN OF YOUR CHOICE :

PROGRAM CODE :

```
DECLARE
  N NUMBER := &N;
  I NUMBER;
  J NUMBER;
BEGIN

  FOR I IN 1..N
  LOOP
    FOR J IN 1..I
    LOOP
      DBMS_OUTPUT.PUT('*') ;
    END LOOP;
    DBMS_OUTPUT.NEW_LINE;
  END LOOP;
END;
/
```

OUTPUT :

```
SQL> ed plsql.txt

SQL> @plsql.txt
Enter value for n: 6
old   4:   N NUMBER := &N;
new   4:   N NUMBER := 6;
*
**
***
****
*****
******

PL/SQL procedure successfully completed.
```

THANK

YOU