47_ YASH SARANG DBMS _ Experiment 8.

Aim: Conditional Loops & cursors in PL/SQL.

Theory: 1) PL/SQL is a block structured language. The programs are logical blocks that ~~are~~ can contain any number of nested sublocks.

2) It includes procedural language elements like conditions and loops. It allows declaration of constants, variables, procedures and functions, types and variable of those types and triggers.

3) The structure of a PL/SQL block is as follows

```
DECLARE:
    declaration section.
BEGIN:
    executable section
EXCEPTION:
    error handling section
END:
```

4) The execution section starts with the reserved keyword BEGIN and ends with END.

5) DDL is not allowed in a PL/SQL block.

6) Exception section is optional and handles any error that might occur in the program.

7) Cursors:

@ Oracle creates a certain portion in the memory for each/every SQL query that is executed.

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(b) Using Using PL/SQL this problem in the memory can be given a name of our choice.

(c) A cursor is basically a pointer to the context area and thus represents a structure in memory.

(d) Cursors are usually used to hold the data retrieved from the tables and perform and action on the data one row at a time.

(e) Cursors of two types: I) Implicit - Oracle created
II) Explicit. - User created.

SQL QUERIES:

1. To give raises to all employees earning a salary less than 1500.

```
SQL> declare
  2  cursor empcursor is select salary from employee;
  3  sal employee.salary%type;
  4  begin
  5  open empcursor;
  6  loop
  7  fetch empcursor into sal;
  8  exit when  empcursor%notfound;
  9  if sal<15000 then
 10  update employee set salary = salary + 0.15*salary where salary < 15000
 11  ;
 12  end if;
 13  end loop;
 14  close empcursor;
 15  end;
 16  /

PL/SQL procedure successfully completed.
```

```
SQL> select * from employee;

EMPLOYEE_ID EMPLOYEE_NAME                    SALARY DEPARTMENT_NO
----------- -------------------- ---------- ------------
        411 Rias                         500000
        111 Prasad                        30000          101
        112 Ash                           34000          101
        113 Tanmay                        34000          101
        114 Cray                           5290          101
        211 John                          60000          201
        212 Shweta                        40000          201
        213 Amit                          43000          201
        311 Paul                          60000          301
        312 Priya                         13225          301

10 rows selected.
```

2. To set job of all clerks with salary greater than 1300 as “Senior Clerk”

```
SQL> declare
  2  cursor empcursor is select salary,job from employee;
  3  sal employee.salary%type;
  4  job employee.job%type;
  5  begin
  6  open empcursor;
  7  loop
  8  fetch empcursor into sal,job;
  9  exit when empcursor%notfound;
 10  if sal>1300 and job like 'Clerk' then
 11  update employee set job = 'Senior Clerk' where sal<1300 and job like 'Clerk';
 12  end if;
 13  end loop;
 14  close empcursor;
 15  end;
 16  /
```

```
EMPLOYEE_ID EMPLOYEE_NAME                    SALARY DEPARTMENT_NO JOB
----------- -------------------- ---------- ------------ --------------------
        413 Pranita                       40000          401 Senior Clerk
        414 Sahil                         46000          401 Accountant
        116 Tejas                          1000          101 Programmer
```

Conclusion- Thus we have studied and successfully implemented PL/SQL.