

Stored Procedure with explicit CURSOR EXAMPLE 1

The following is an example of a stored procedure which uses explicit cursor to access first n employees sorted by their salaries in a descending order (from highest to lowest).

The n is specified as a value for an input parameter and indicates the number of employees to be displayed.

SET SERVEROUTPUT ON; -- set the output the default screen output

```
PROCEDURE get_n_top_salaries (p_number_of_employees IN NUMBER)
/*****
/*  Stored procedure get_n_top_salaries          */
/*  purpose:                                   */
/*    It displays n employee ids with the highest salary      */
/*    Input - number of employees to be displayed            */
*****/
IS
v_empno EMP.EMPNO%TYPE;
v_result VARCHAR2(20);
v_counter NUMBER(4) := 1;

CURSOR c_Top_employees IS -- define cursor
  SELECT EMPNO
  FROM EMP
  ORDER BY SAL DESC;
BEGIN
  OPEN c_Top_employees;
  LOOP
    FETCH c_Top_employees INTO v_empno;
    EXIT WHEN c_Top_employees%NOTFOUND
      OR (v_counter > p_number_of_employees);
    v_result := TO_CHAR (v_empno);
    v_counter := v_counter + 1;
    DBMS_OUTPUT.PUT_LINE (v_result);
  END LOOP;
  CLOSE c_Top_employees;
END;
```

NOTE: parameter p_number_of_employees is defined as NUMBER without precision or scale. It is illegal (syntax error) to specify precision for NUMBER or length for VARCHAR2 in formal parameters.

Example 2 Using FOR LOOP

The following stored procedure exists in the database. This procedure uses explicit cursor l_patients and FOR *cursorname*_rec IN LOOP syntax. The cursor FOR loop opens the cursor, declares the record using %ROWTYPE, fetches each row into a record, and then closes the loop when all the rows have been fetched (or the loop terminates for other reasons).

Modify this procedure to list Patient Ids and their age. Patient table: PATIENT (PID, PFNAME, PFLNAME, DOB).

```
PROCEDURE list_patients IS
cursor l_patients IS
select * from PATIENT;
BEGIN
  FOR l_patients_rec in l_patients_cursor
  LOOP
    DBMS_OUTPUT.PUT_LINE (to_char(l_patients_rec.PID));
  END LOOP;
END;
```