Lab 2. Introduction to PL/SQL And Cursors

**2.1 Identify the problems(if any) in the below declarations:**

DECLARE

V\_Sample1 NUMBER(2);

V\_Sample2 CONSTANT NUMBER(2) ;

V\_Sample3 NUMBER(2) NOT NULL ;

V\_Sample4 NUMBER(2) := 50;

V\_Sample5 NUMBER(2) DEFAULT 25;

**INPUT :**

DECLARE

V\_Sample1 NUMBER(2);

V\_Sample2 CONSTANT NUMBER(2) ;

V\_Sample3 NUMBER(2) NOT NULL ;

V\_Sample4 NUMBER(2) := 50;

V\_Sample5 NUMBER(2) DEFAULT 25;

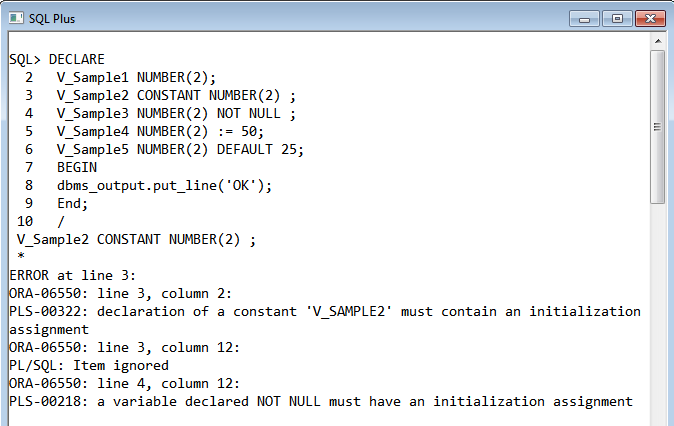
BEGIN

dbms\_output.put\_line('OK');

End;

/

**OUTPUT**

****

**2.2 The following PL/SQL block is incomplete. Modify the block to achieve requirements as stated in the comments in the block.**

DECLARE --outer block

var\_num1 NUMBER := 5;

BEGIN

DECLARE --inner block

var\_num1 NUMBER := 10;

BEGIN

DBMS\_OUTPUT.PUT\_LINE('Value for var\_num1:' ||var\_num1);

--Can outer block variable (var\_num1) be printed here.If Yes,Print the same.

END;

--Can inner block variable(var\_num1) be printed here.If Yes,Print the same.

END;

**INPUT :**

<<Outer\_Block>>

DECLARE --outer block

var\_num1 NUMBER := 5;

BEGIN

<<Inner\_Block>>

DECLARE --inner block

var\_num1 NUMBER := 10;

BEGIN

DBMS\_OUTPUT.PUT\_LINE('Value for outer var\_num1:' ||Outer\_Block.var\_num1);

--Can outer block variable (var\_num1) be printed here.If Yes,Print the same.

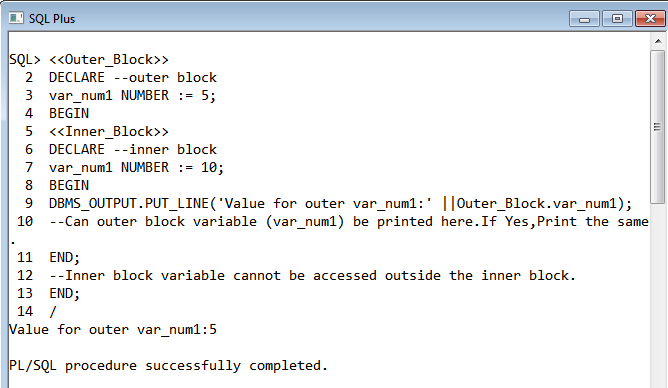
END;

--Inner block variable cannot be accessed outside the inner block.

END;

/

**OUTPUT:**



**2.3. Write a PL/SQL block to retrieve all staff (code, name, salary) under specific**

**department number and display the result.**

**INPUT :**

DECLARE

CURSOR C\_staff IS

SELECT Staff\_Code,Staff\_Name,Staff\_Sal FROM Staff\_Master WHERE Dept\_Code=&Dept\_Code;

myvar C\_staff%ROWTYPE;

BEGIN

OPEN C\_staff;

LOOP

FETCH C\_staff INTO myvar;

IF C\_staff%FOUND THEN

DBMS\_OUTPUT.PUT\_LINE(myvar.Staff\_Code||' '||myvar.Staff\_Name||' '||myvar.Staff\_Sal);

ELSE

EXIT;

END IF;

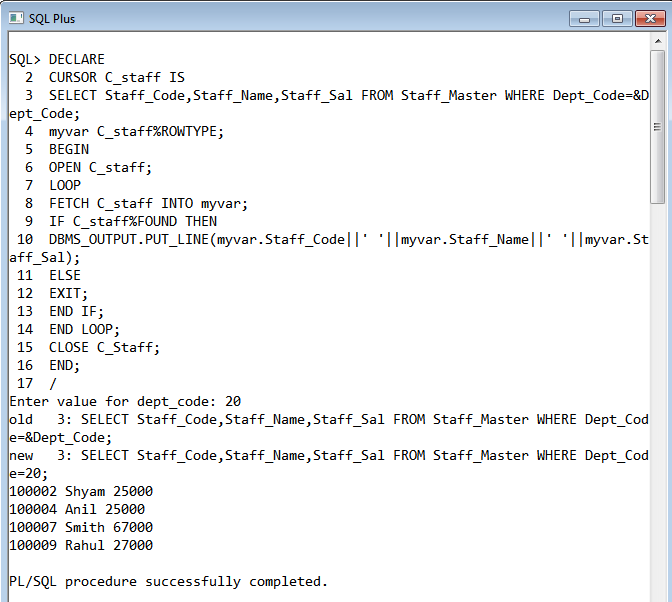
END LOOP;

CLOSE C\_Staff;

END;

/

**OUTPUT**

****

**2.4. Write a PL/SQL block to increase the salary by 30 % or 5000 whichever minimum for**

**a given Department\_Code.**

**INPUT:**

DECLARE

CURSOR C\_SAL IS

SELECT \* FROM STAFF\_MASTER WHERE DEPT\_CODE=&DEPT\_CODE;

VAR C\_SAL%ROWTYPE;

BEGIN

OPEN C\_SAL;

LOOP

FETCH C\_SAL INTO VAR;

EXIT WHEN C\_SAL%NOTFOUND;

IF C\_SAL%FOUND THEN

IF VAR.STAFF\_SAL\*0.3 < 5000 THEN

UPDATE STAFF\_MASTER SET STAFF\_SAL=STAFF\_SAL\*1.3 WHERE STAFF\_CODE=VAR.STAFF\_CODE;

ELSE

UPDATE STAFF\_MASTER SET STAFF\_SAL=STAFF\_SAL+5000 WHERE STAFF\_CODE=VAR.STAFF\_CODE;

END IF;

DBMS\_OUTPUT.PUT\_LINE(VAR.STAFF\_CODE||' '||VAR.STAFF\_NAME||' '||VAR.STAFF\_SAL);

END IF;

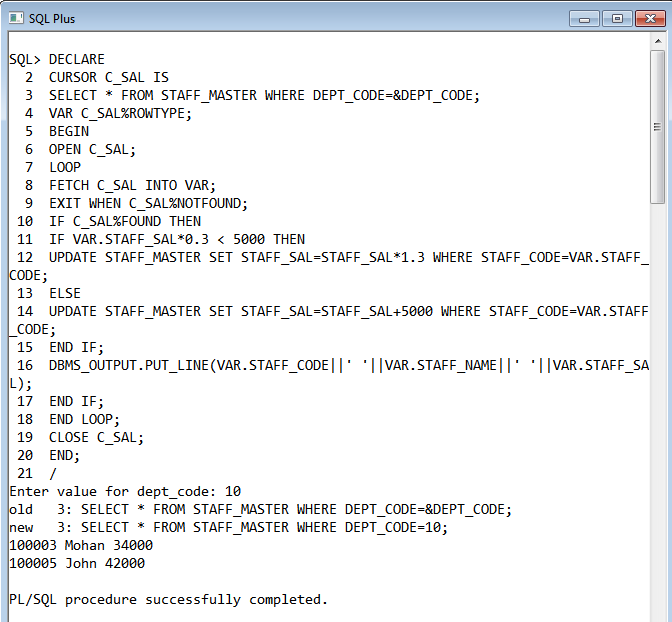
END LOOP;

CLOSE C\_SAL;

END;

/

**OUTPUT:**



**2.5. Write a PL/SQL block to generate the following report for a given Department code**

**Student\_Code Sudent\_Name Subject1 Subject2 Subject3 Total Percentage**

**Grade**

For Grade:

Percent >= 80 then grade= A

Percent >= 70 and < 80 then grade= B

Percent >= 60 and < 70 then grade= C

Else D

Student should pass in each subject individually (pass marks 60).

**INPUT:**

DECLARE

Cursor C\_result IS

SELECT s1.Student\_Code,s1.Student\_Name,s2.Subject1,s2.Subject2,s2.Subject3

FROM Student\_Master s1,Student\_Marks s2 WHERE s1.Student\_Code=s2.Student\_Code and s1.Dept\_Code=&DeptNo;

CURSOR C\_Dept IS

SELECT \* FROM Department\_Master WHERE Dept\_Code=&DeptNo;

var C\_result%ROWTYPE;

var1 C\_Dept%ROWTYPE;

Total NUMBER(5);

Percentage NUMBER(5);

Grade VARCHAR2(2);

counter Number:=0;

BEGIN

OPEN C\_Dept;

FETCH C\_Dept INTO var1;

IF C\_Dept%FOUND THEN

OPEN C\_result;

DBMS\_OUTPUT.PUT\_LINE('Student\_Code'||' Student\_Name'||' Subject1'||' Subject2'||' Subject3'||' Total'||' Percentage'||' Grade');

LOOP

FETCH C\_result INTO var;

IF C\_result%NOTFOUND THEN

EXIT;

ELSE

counter:= counter+1;

Total:= var.Subject1 + var.Subject2 + var.Subject3;

Percentage := (Total/300)\*100;

IF Percentage >= 80 THEN

Grade:='A';

ELSIF (Percentage >= 70 AND Percentage < 80) THEN

Grade:='B';

ELSIF (Percentage >= 60 AND Percentage < 70) THEN

Grade:='C';

ELSE

Grade:='D';

END IF;

DBMS\_OUTPUT.PUT\_LINE(var.Student\_Code||' '||var.Student\_Name||' '||var.Subject1||' '||var.Subject2||' '||var.Subject3||' '||Total||' '||Percentage||' '||Grade);

END IF;

END LOOP;

IF counter=0 THEN

DBMS\_OUTPUT.PUT\_LINE('There are no students in the department.');

END IF;

CLOSE C\_result;

ELSE

DBMS\_OUTPUT.PUT\_LINE('The Department does not exist.');

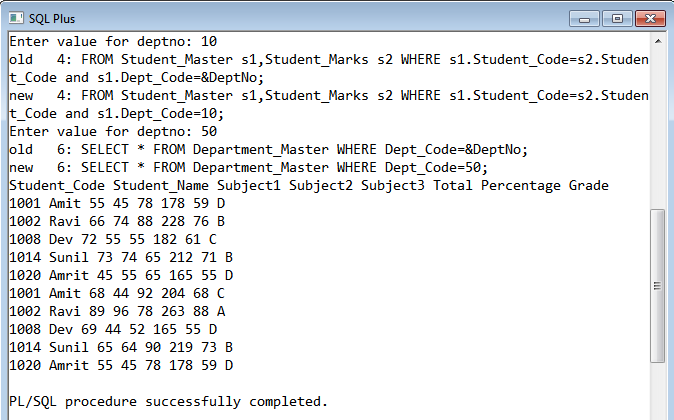
END IF;

CLOSE C\_Dept;

END;

/

**OUTPUT:**



**2.6. Write a PL/SQL block to retrieve the details of the staff belonging to a particular**

**department. Department code should be passed as a parameter to the cursor.**

**INPUT:**

DECLARE

CURSOR C\_info IS

SELECT \* FROM Staff\_Master WHERE Dept\_Code = &Dept\_Code;

var C\_Info%ROWTYPE;

BEGIN

OPEN C\_Info;

LOOP

FETCH C\_Info INTO var;

EXIT WHEN C\_Info%NOTFOUND;

IF C\_Info%FOUND THEN

DBMS\_OUTPUT.PUT\_LINE(var.Staff\_Code||' '||var.Staff\_Name||' '||var.Design\_Code||' '||var.Hiredate||' '||var.Staff\_Sal);

END IF;

END LOOP;

CLOSE C\_Info;

END;

/

**OUTPUT:**

