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Lab sheet – 9 (L9+L10)

PL / SQL
(Procedures, Functions)

Practice Exercises

1. **Create the Table:**
   Student (sname, regno, dept, year, Mark1, Mark2, Mark3, Total, Average)

```
SQL> CREATE TABLE STUDENT_21MIA1119(SNAME VARCHAR(20),REGNO VARCHAR(20),DEPT VARCHAR(20),YEAR NUMBER(4),MARK1 NUMBER(2,1),MARK2 NUMBER(2,1),MARK3 NUMBER(2,1),TOTAL NUMBER(2),AVERAGE NUMBER(3,1));

Table created.

SQL> DESC STUDENT_21MIA1119;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SNAME                                              VARCHAR2(20)
 REGNO                                              VARCHAR2(20)
 DEPT                                               VARCHAR2(20)
 YEAR                                               NUMBER(4)
 MARK1                                              NUMBER(2,1)
 MARK2                                              NUMBER(2,1)
 MARK3                                              NUMBER(2,1)
 TOTAL                                              NUMBER(2)
 AVERAGE                                            NUMBER(3,1)
```

2. **Write a PL/SQL Procedure to insert records in the student table except the columns total, average**

```
SQL> CREATE OR REPLACE PROCEDURE INSERTSTUDENT_21MIA1119(P_SNAME IN STUDENT_21MIA1119.SNAME%TYPE,P_REGNO IN STUDENT_21MIA1119.REGNO%TYPE,P_DEPT IN STUDENT_21MIA1119.DEPT%TYPE,P_YEAR IN STUDENT_21MIA1119.YEAR%TYP
E,P_MARK1 IN STUDENT_21MIA1119.MARK1%TYPE,P_MARK2 IN STUDENT_21MIA1119.MARK2%TYPE,P_MARK3 IN STUDENT_21MIA1119.MARK3%TYPE)
  2   IS
  3  BEGIN
  4  INSERT INTO STUDENT_21MIA1119("SNAME","REGNO","DEPT","YEAR","MARK1","MARK2","MARK3")
  5  VALUES(P_SNAME,P_REGNO,P_DEPT,P_YEAR,P_MARK1,P_MARK2,P_MARK3);
  6  COMMIT;
  7  END;
  8  /

Procedure created.
```

```
SQL> BEGIN
  2  INSERTSTUDENT_21MIA1119('MANU','20ABC1110','ECE',2021,99,97,98);
  3  END;
  4  /

PL/SQL procedure successfully completed.

SQL> BEGIN
  2  INSERTSTUDENT_21MIA1119('VINU','20ABC1111','ECE',2021,88,98,96);
  3  INSERTSTUDENT_21MIA1119('DINU','20ABC1112','ECE',2021,99,97,99);
  4  END;
  5  /

PL/SQL procedure successfully completed.

SQL> SELECT*FROM STUDENT_21MIA1119;

SNAME                REGNO                DEPT                      YEAR
-------------------- -------------------- -------------------- ----------
     MARK1      MARK2      MARK3      TOTAL    AVERAGE
---------- ---------- ---------- ---------- ----------
MANU                 20ABC1110            ECE                       2021
       99         97         98

VINU                 20ABC1111            ECE                       2021
       88         98         96

DINU                 20ABC1112            ECE                       2021
       99         97         99
```

3. **Write a PL/SQL Procedure to update the Total and Average in student table**

```
SQL> CREATE OR REPLACE PROCEDURE TOTAL
  2  AS
  3  BEGIN
  4  UPDATE STUDENT_21MIA1119 SET TOTAL=MARK1+MARK2+MARK3;
  5  UPDATE STUDENT_21MIA1119 SET AVERAGE=TOTAL/3;
  6  END;
  7  /

Procedure created.

SQL> BEGIN
  2  TOTALSTUDENT_21MIA1119;
  3  END;
  4  /
TOTALSTUDENT_21MIA1119;
*
ERROR at line 2:
ORA-06550: line 2, column 1:
PLS-00201: identifier 'TOTALSTUDENT_21MIA1119' must be declared
ORA-06550: line 2, column 1:
PL/SQL: Statement ignored


SQL> BEGIN
  2  TOTAL;
  3  END;
  4  /

PL/SQL procedure successfully completed.

SQL> SELECT*FROM STUDENT_21MIA1119;

SNAME                REGNO                DEPT                      YEAR
-------------------- -------------------- -------------------- ----------
     MARK1      MARK2      MARK3      TOTAL    AVERAGE
---------- ---------- ---------- ---------- ----------
MANU                 20ABC1110            ECE                       2021
       99         97         98        294         98

VINU                 20ABC1111            ECE                       2021
       88         98         96        282         94

DINU                 20ABC1112            ECE                       2021
       99         97         99        295       98.3
```

4. **Write a PL/SQL Procedure to delete the student details belongs to ECE department**

```
SQL> CREATE OR REPLACE PROCEDURE DELETE_STUDENT_21MIA1119
  2  AS
  3  BEGIN
  4  DELETE FROM STUDENT_21MIA1119
  5  WHERE DEPT='ECE';
  6  END DELETE_STUDENT_21MIA1119;
  7  /

Procedure created.

SQL> BEGIN
  2  DELETE_STUDENT_21MIA1119;
  3  END;
  4  /

PL/SQL procedure successfully completed.

SQL> SELECT*FROM STUDENT_21MIA1119;

no rows selected
```

5. **Delete the procedure which used to delete the record**

```
SQL>  DROP PROCEDURE DELETE_STUDENT_21MIA1119;

Procedure dropped.
```

Exercises

PL/SQL Procedures and Functions

1. Write PL/SQL function to compute EB Bill using the following criteria

a. Units<=100 then Rs. 1.00/unit
b. Units>100 and Units <=200 then Rs. 2.00/unit
c. Units>200 and Units <=300 then Rs. 3.00/unit
d. Units>300 then Rs. 5.00/unit

E.g.: if consumed units 350 then Pay= (100*Rs.1)+(100*R.2.00)+(100*Rs.3.00)+(50*Rs.5)

```
SQL> CREATE OR REPLACE PROCEDURE E_BILL_1118(unit in number,net out number) is
  2  BEGIN
  3  if(unit between 0 and 100) then
  4  net:= unit*1;
  5  elsif(unit between 101 and 200)
  6  then
  7  net:=100*1+(unit-100)*2;
  8  elsif(unit between 200 and 300)
  9  then
 10  net:=1*100+2*100+100*3+(unit-300)*5;
 11  end if;
 12  end;
 13  /

Procedure created.
```

```
SQL> set serveroutput on;
SQL> declare
  2  unit1 number:=300;
  3  total number;
  4  begin
  5  E_BILL_1118(unit1,total);
  6  dbms_output.put_line('For first '||unit1||' units '||' electricity bill: '||total);
  7  end;
  8  /
For first 300 units  electricity bill: 600

PL/SQL procedure successfully completed.
```