DATABASE MANAGEMENT SYSTEM

LAB SHEET-9 PL / SQL

Name-Somil jain Reg. No.- 24BRS1346

Exercises –I

PL/SQL Procedures and Functions

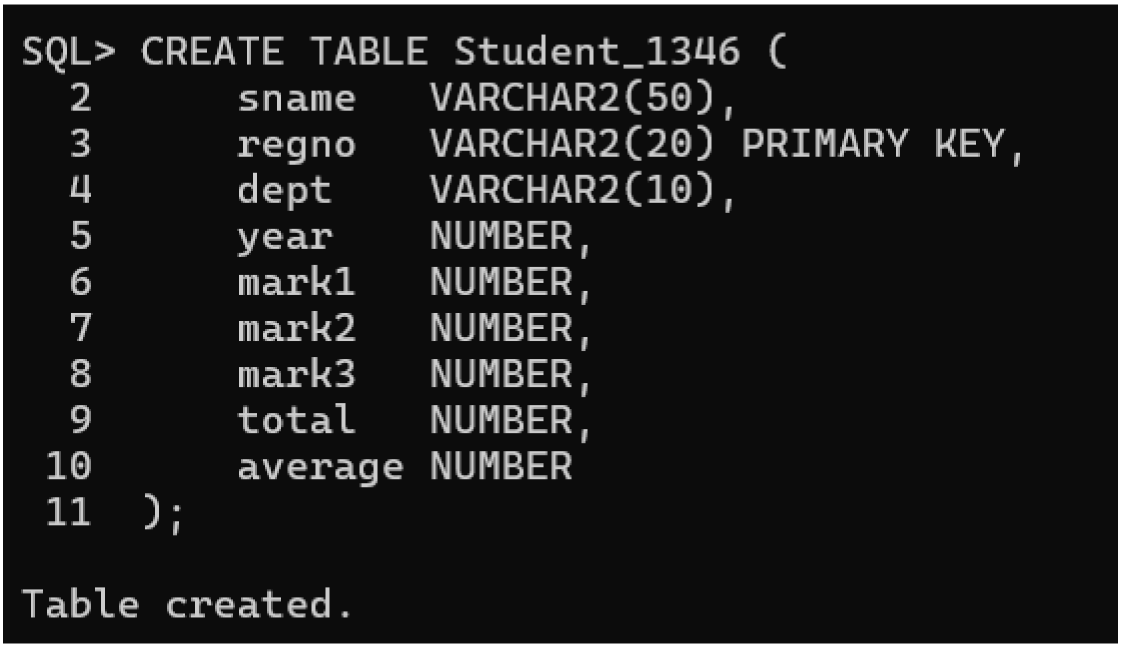
Create the following table:

Student (sname, regno, dept, year, Mark1, Mark2, Mark3, Total, Average)

1. Write a PL/SQL Procedure to insert records in the student table except the columns total, average
2. Write a PL/SQL Procedure to update the Total and Average in student table
3. Write a PL/SQL Procedure to delete the student details belongs to ECE department

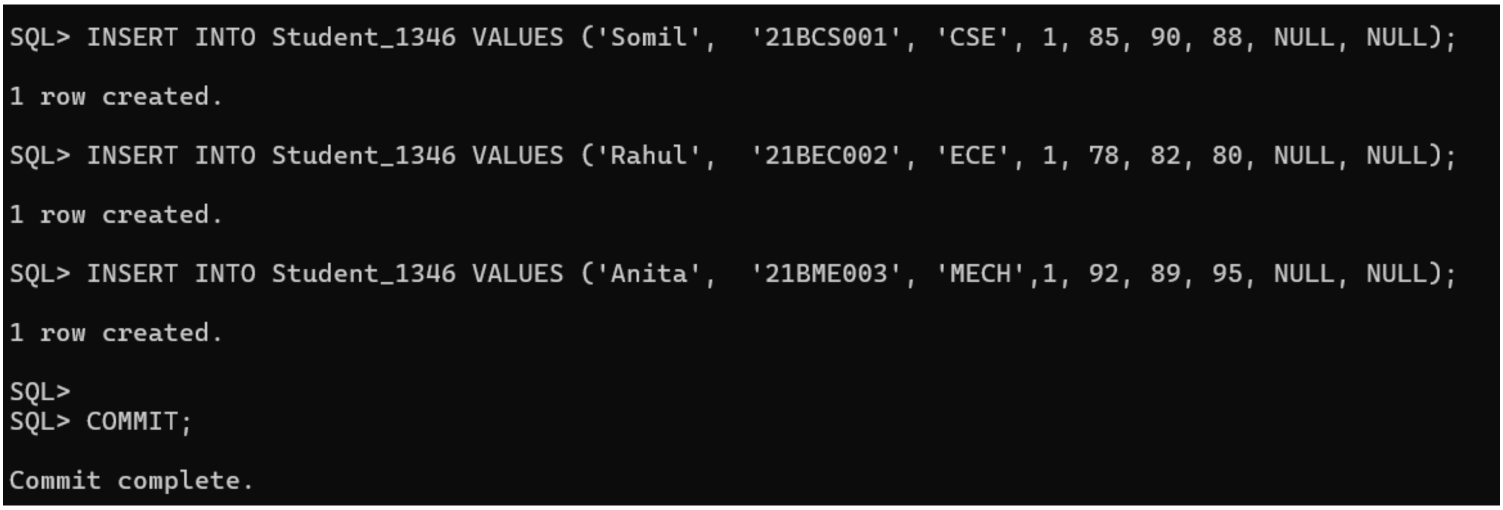
CREATE TABLE-

1. Student_1346



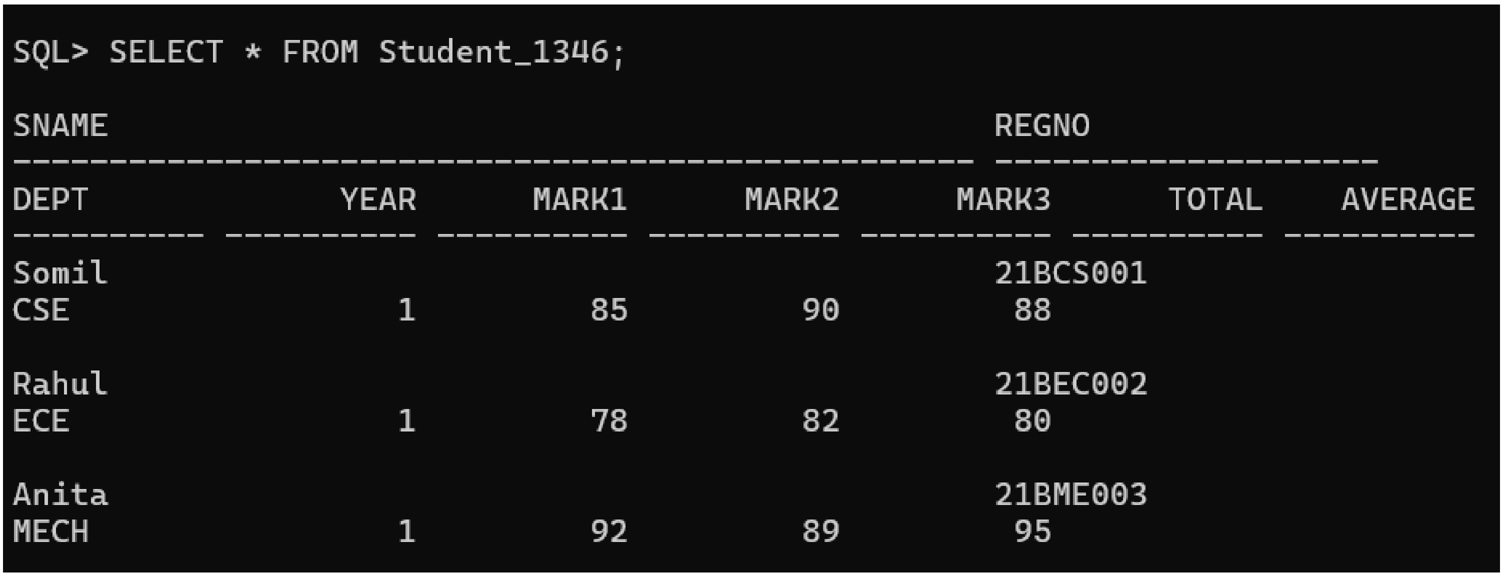
```
SQL> CREATE TABLE Student_1346 (
         sname   VARCHAR2(50),
         regno   VARCHAR2(20) PRIMARY KEY,
         dept    VARCHAR2(10),
         year    NUMBER,
         mark1   NUMBER,
         mark2   NUMBER,
         mark3   NUMBER,
         total   NUMBER,
         average NUMBER
     );

Table created.
```

INSERT DATA-



```
SQL> INSERT INTO Student_1346 VALUES ('Somil',  '21BCS001', 'CSE', 1, 85, 90, 88, NULL, NULL);

1 row created.

SQL> INSERT INTO Student_1346 VALUES ('Rahul',  '21BEC002', 'ECE', 1, 78, 82, 80, NULL, NULL);

1 row created.

SQL> INSERT INTO Student_1346 VALUES ('Anita',  '21BME003', 'MECH',1, 92, 89, 95, NULL, NULL);

1 row created.

SQL>
SQL> COMMIT;

Commit complete.
```

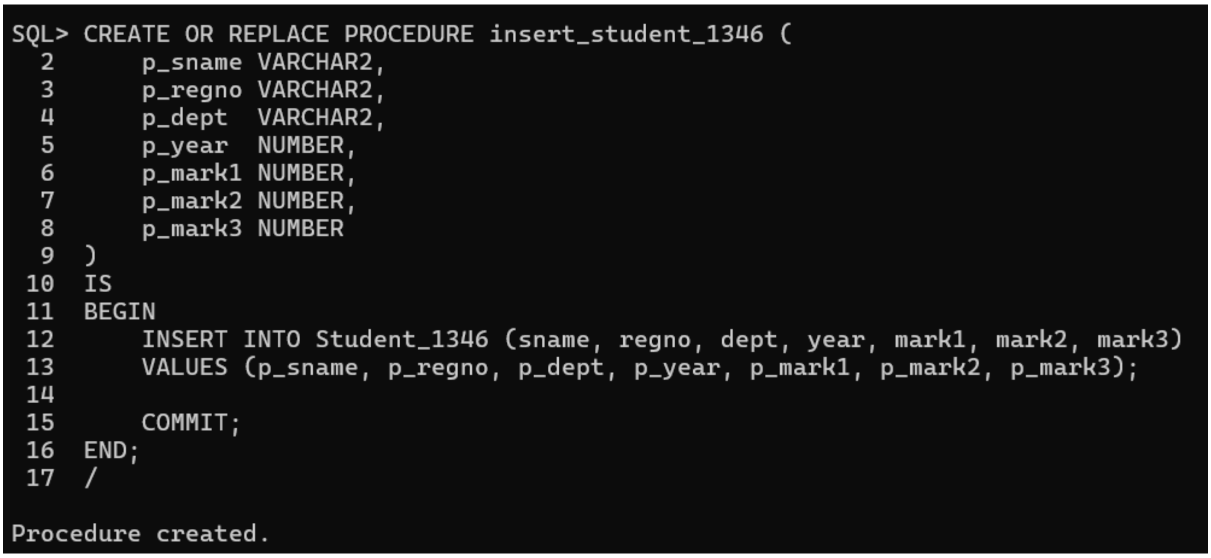
VIEW-



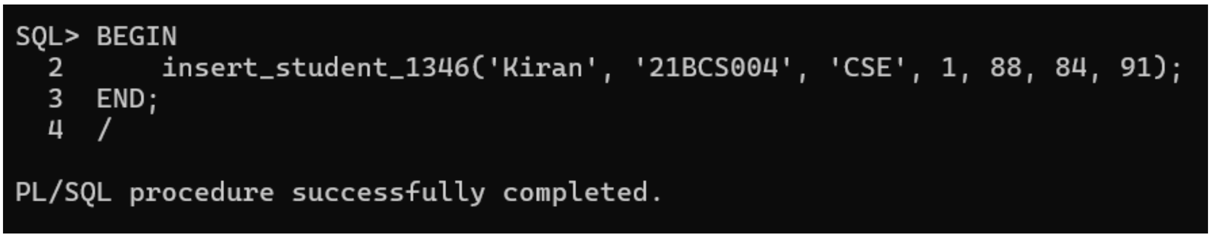
```
SQL> SELECT * FROM Student_1346;

SNAME                                              REGNO
-------------------------------------------------- --------------------
DEPT             YEAR      MARK1      MARK2      MARK3      TOTAL    AVERAGE
---------- ---------- ---------- ---------- ---------- ---------- ----------
Somil                                              21BCS001
CSE                 1         85         90         88

Rahul                                              21BEC002
ECE                 1         78         82         80

Anita                                              21BME003
MECH                1         92         89         95
```

QUESTIONS-

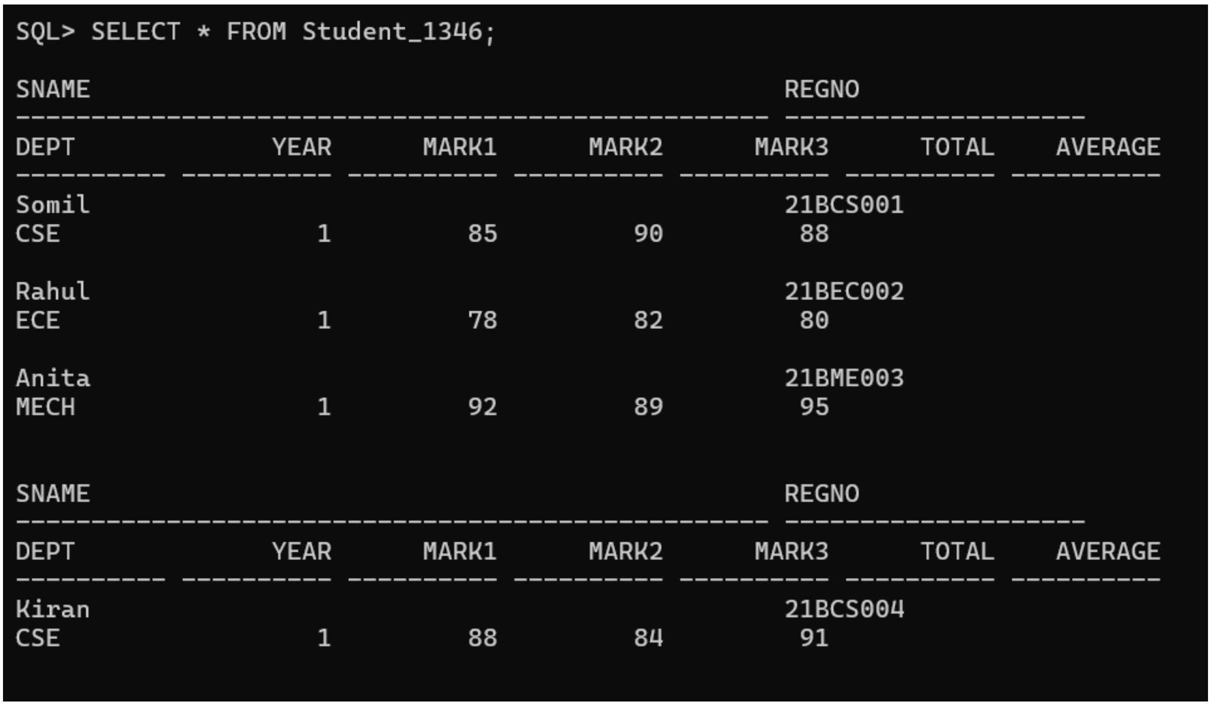
1.Procedure to Insert Records (excluding Total & Average)



```
SQL> CREATE OR REPLACE PROCEDURE insert_student_1346 (
         p_sname VARCHAR2,
         p_regno VARCHAR2,
         p_dept  VARCHAR2,
         p_year  NUMBER,
         p_mark1 NUMBER,
         p_mark2 NUMBER,
         p_mark3 NUMBER
     )
     IS
     BEGIN
         INSERT INTO Student_1346 (sname, regno, dept, year, mark1, mark2, mark3)
         VALUES (p_sname, p_regno, p_dept, p_year, p_mark1, p_mark2, p_mark3);

         COMMIT;
     END;
     /

Procedure created.
```

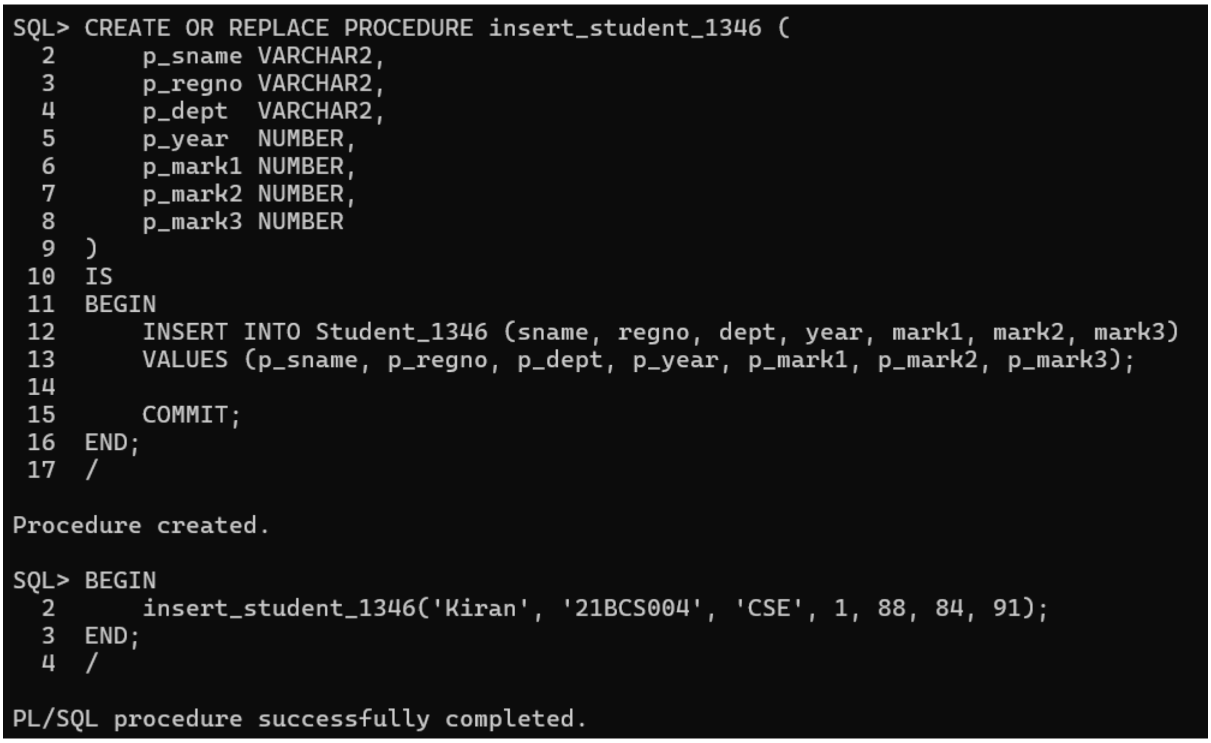


```
SQL> BEGIN
  2      insert_student_1346('Kiran', '21BCS004', 'CSE', 1, 88, 84, 91);
  3  END;
  4  /

PL/SQL procedure successfully completed.
```

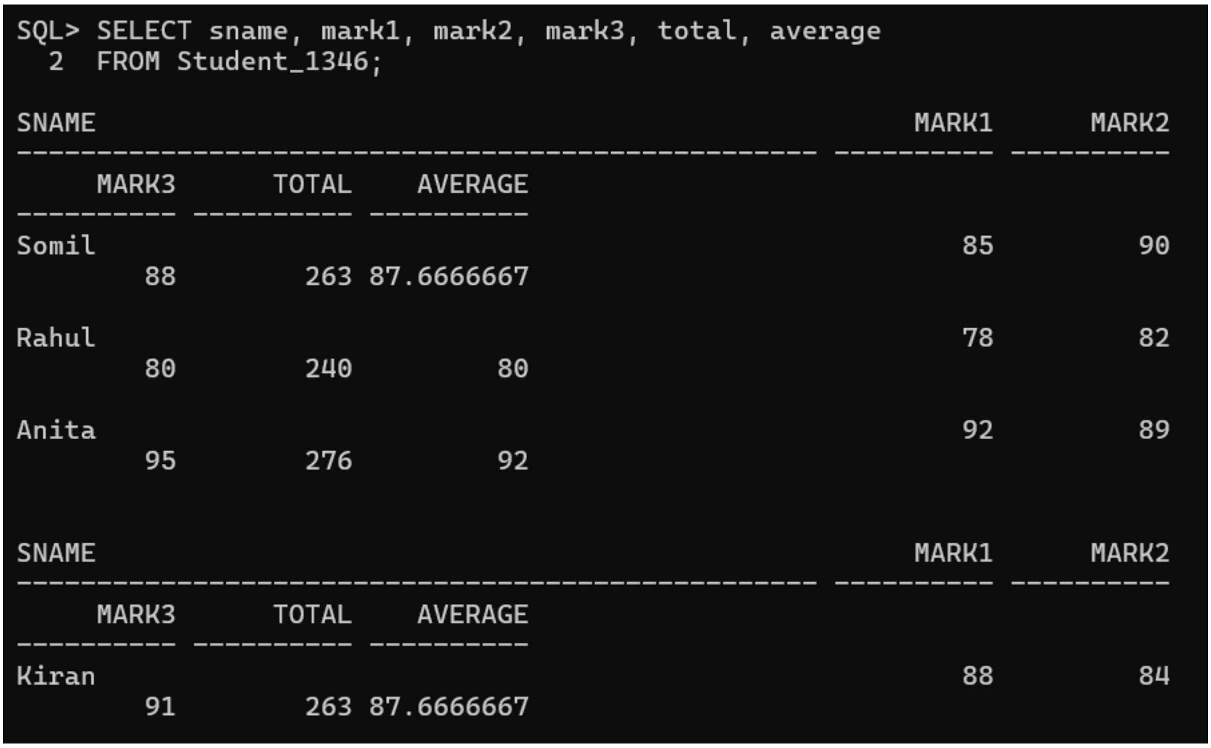


```
SQL> SELECT * FROM Student_1346;

SNAME                                              REGNO
-------------------------------------------------- --------------------
DEPT             YEAR      MARK1      MARK2      MARK3      TOTAL    AVERAGE
---------- ---------- ---------- ---------- ---------- ---------- ----------
Somil                                              21BCS001
CSE                 1         85         90         88

Rahul                                              21BEC002
ECE                 1         78         82         80

Anita                                              21BME003
MECH                1         92         89         95


SNAME                                              REGNO
-------------------------------------------------- --------------------
DEPT             YEAR      MARK1      MARK2      MARK3      TOTAL    AVERAGE
---------- ---------- ---------- ---------- ---------- ---------- ----------
Kiran                                              21BCS004
CSE                 1         88         84         91
```

2. PL/SQL Procedure to UPDATE Total & Average

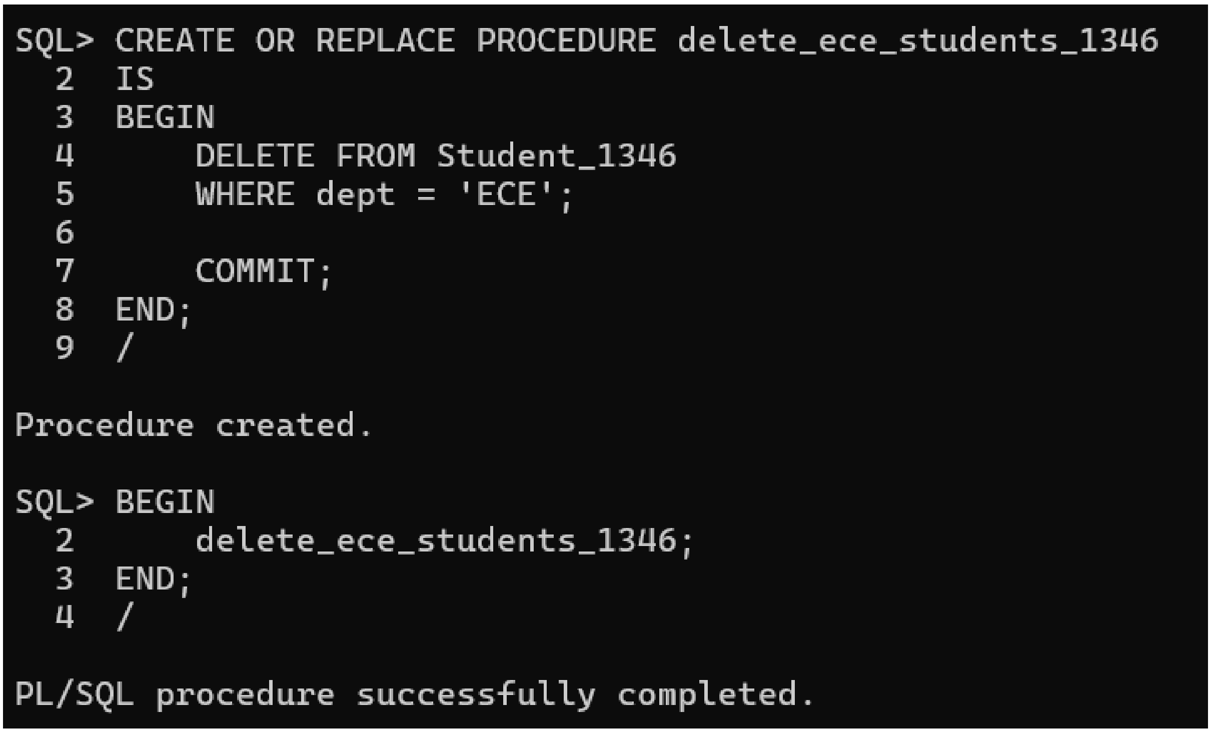


```
SQL> CREATE OR REPLACE PROCEDURE insert_student_1346 (
  2      p_sname VARCHAR2,
  3      p_regno VARCHAR2,
  4      p_dept  VARCHAR2,
  5      p_year  NUMBER,
  6      p_mark1 NUMBER,
  7      p_mark2 NUMBER,
  8      p_mark3 NUMBER
  9  )
 10  IS
 11  BEGIN
 12      INSERT INTO Student_1346 (sname, regno, dept, year, mark1, mark2, mark3)
 13      VALUES (p_sname, p_regno, p_dept, p_year, p_mark1, p_mark2, p_mark3);
 14
 15      COMMIT;
 16  END;
 17  /

Procedure created.

SQL> BEGIN
  2      insert_student_1346('Kiran', '21BCS004', 'CSE', 1, 88, 84, 91);
  3  END;
  4  /

PL/SQL procedure successfully completed.
```

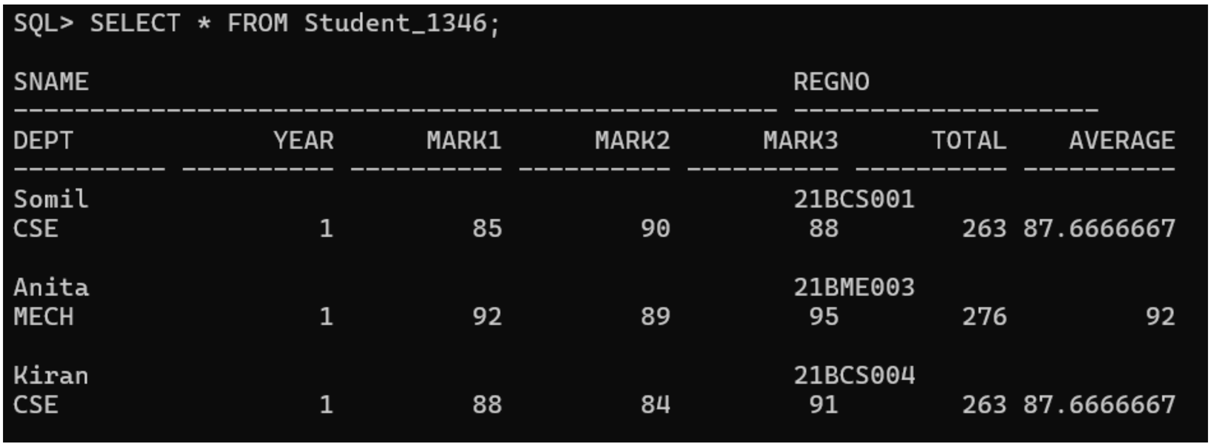


```
SQL> SELECT sname, mark1, mark2, mark3, total, average
     FROM Student_1346;

SNAME                                                   MARK1      MARK2
-------------------------------------------------- ---------- ----------
     MARK3      TOTAL    AVERAGE
---------- ---------- ----------
Somil                                                      85         90
        88        263 87.6666667

Rahul                                                      78         82
        80        240         80

Anita                                                      92         89
        95        276         92


SNAME                                                   MARK1      MARK2
-------------------------------------------------- ---------- ----------
     MARK3      TOTAL    AVERAGE
---------- ---------- ----------
Kiran                                                      88         84
        91        263 87.6666667
```

3. **PL/SQL Procedure to DELETE ECE Department Students**



```
SQL> CREATE OR REPLACE PROCEDURE delete_ece_students_1346
     IS
     BEGIN
         DELETE FROM Student_1346
         WHERE dept = 'ECE';

         COMMIT;
     END;
     /

Procedure created.

SQL> BEGIN
         delete_ece_students_1346;
     END;
     /

PL/SQL procedure successfully completed.
```



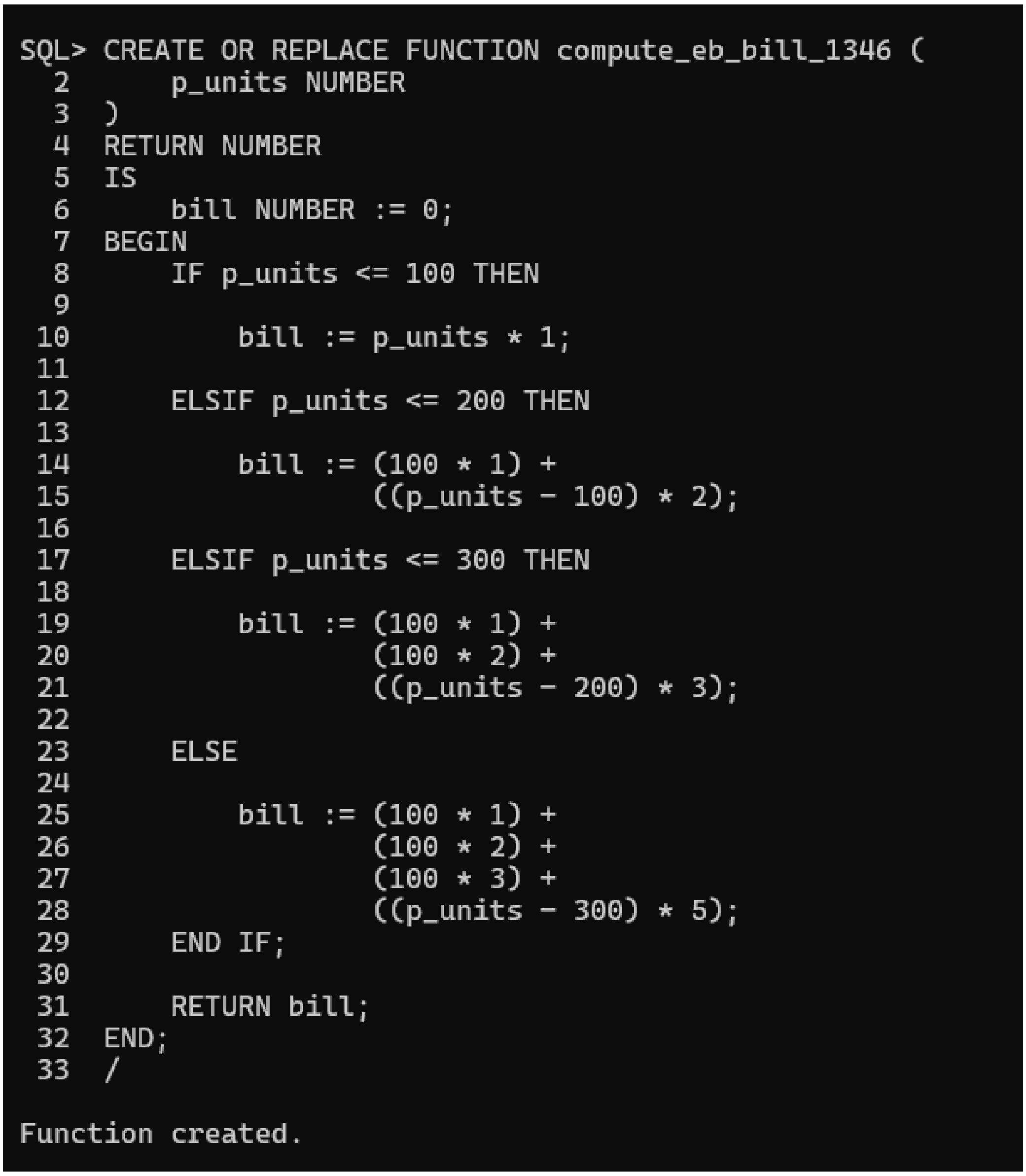
```
SQL> SELECT * FROM Student_1346;

SNAME                                              REGNO
-------------------------------------------------- --------------------
DEPT             YEAR      MARK1      MARK2      MARK3      TOTAL    AVERAGE
---------- ---------- ---------- ---------- ---------- ---------- ----------
Somil                                              21BCS001
CSE                 1         85         90         88        263 87.6666667

Anita                                              21BME003
MECH                1         92         89         95        276         92

Kiran                                              21BCS004
CSE                 1         88         84         91        263 87.6666667
```

Exercises- II

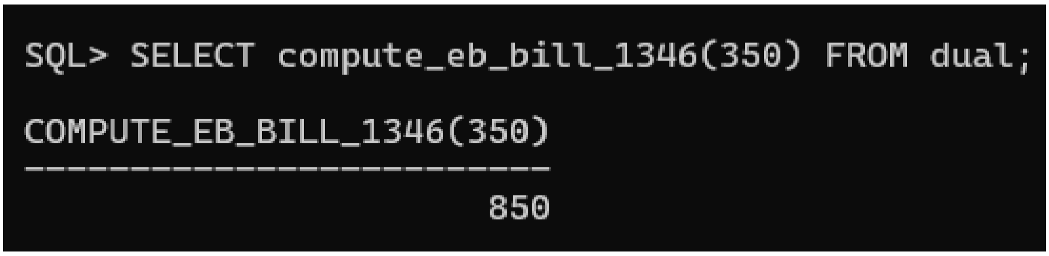
4. Write PL/SQL function to compute EB Bill using the following criteria

   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 FUNCTION compute_eb_bill_1346 (
         p_units NUMBER
     )
     RETURN NUMBER
     IS
         bill NUMBER := 0;
     BEGIN
         IF p_units <= 100 THEN

             bill := p_units * 1;

         ELSIF p_units <= 200 THEN

             bill := (100 * 1) +
                     ((p_units - 100) * 2);

         ELSIF p_units <= 300 THEN

             bill := (100 * 1) +
                     (100 * 2) +
                     ((p_units - 200) * 3);

         ELSE

             bill := (100 * 1) +
                     (100 * 2) +
                     (100 * 3) +
                     ((p_units - 300) * 5);
         END IF;

         RETURN bill;
     END;
     /

Function created.
```



```
SQL> SELECT compute_eb_bill_1346(350) FROM dual;

COMPUTE_EB_BILL_1346(350)
-------------------------
                      850
```