11. PL/SQL PROCEDURE FOR STUDENT MARKSHEET PREPARATION

AIM

To write a PL / SQL procedure for preparing mark sheet for students.

ALGORITHM

Step – I : Create table Student as follows:

```
SQL> create table Student (RegNo number (11) constraint
     pk_RegNo Primary Key, Name varchar2 (30), Dept
     varchar2 (3), m1 number (3), m2 number (3), m3
     number (3), m4 number (3), m5 number (3), Total
     number (3), Average number (6, 2), Result
     varchar2(4), Grade char (1));
```

Step – II : Type ed in the SQL Editor to open a notepad window. Key in the PL/SQL procedure as given below and save it using a filename (say E:\SKS\MC9217\Program_11\PLSQL_Student.txt).

Step – III : In the PL / SQL procedure,

i) Get the values of choice, register no., name, dept, subject marks.

ii) Calculate total, average, result, and grade.

iii) Depending on the choice, either insert or update a record.

iv) Display the student information.

Step – IV : Execute the PL / SQL procedure as shown below:

```
SQL> @ E:\SKS\MC9217\Program_11\PLSQL_Student.txt
```

Step – V : Execute the following command for the dbms_output.put_line (a function to display a line of text) used in the PL / SQL procedure to take effect.

```
SQL> set serveroutput on
```

PL / SQL PROCEDURE

```
declare
 um char(1);
 row_stud student%rowtype;
 rno student.regno%type;
 sn student.name%type;
 sd student.dept%type;
 s1 student.m1%type;
 s2 student.m2%type;
 s3 student.m3%type;
 s4 student.m4%type;
 s5 student.m5%type;
 tot student.total%type;
 ave student.average%type;
 res student.result%type;
 gr student.grade%type;
begin
```

```
 um := '&Mode_I_Insert_U_Update';
 rno := &RegisterNo;
 sn := '&Name';
 sd := '&Dept';
 s1 := &Subject1_Mark;
 s2 := &Subject2_Mark;
 s3 := &Subject3_Mark;
 s4 := &Subject4_Mark;
 s5 := &Subject5_Mark;
 tot := s1 + s2 + s3 + s4 + s5;
 if s1>= 50 and s2 >= 50 and s3 >= 50 and s4 >= 50 and s5 >= 50 then
  res := 'Pass';
  ave := tot / 5;
  if ave > 90 then
   gr := 'S';
  elsif ave > 80 then
   gr := 'A';
  elsif ave > 70 then
   gr := 'B';
  elsif ave > 60 then
   gr := 'C';
  else
   gr := 'D';
  end if;
 else
  res := 'Fail';
  ave := null;
  gr := null;
 end if;
 if upper(um) = 'I' then
  insert into student values (rno,sn,sd,s1,s2,s3,s4,s5,tot,ave,res,gr);
  dbms_output.put_line ('1 Record Inserted...');
 elsif upper(um) = 'U' then
  select * into row_stud from student where regno = rno;
  update student set name=sn, dept=sd, m1=s1, m2=s2, m3=s3, m4=s4,
  m5=s5, total=tot, average=ave, result=res, grade=gr where regno=rno;
  dbms_output.put_line ('1 Record Updated...');
 end if;
 if upper(um) = 'I' or upper(um) = 'U' then
  dbms_output.put_line ('Register no.          : ' || to_char(rno));
  dbms_output.put_line ('Name                  : ' || sn);
  dbms_output.put_line ('Department            : ' || sd);
  dbms_output.put_line ('Mark obtained in subject1:'|| to_char(s1));
  dbms_output.put_line ('Mark obtained in subject2:'|| to_char(s2));
  dbms_output.put_line ('Mark obtained in subject3:'|| to_char(s3));
  dbms_output.put_line ('Mark obtained in subject4:'|| to_char(s4));
  dbms_output.put_line ('Mark obtained in subject5:'|| to_char(s5));
  dbms_output.put_line ('Total marks obtained  : ' || to_char(tot));
  dbms_output.put_line ('Average in all subjects:' || to_char(ave));
  dbms_output.put_line ('Overall result            : ' || res);
  dbms_output.put_line ('Grade                     : ' || gr);
 else
  dbms_output.put_line ('Invalid choice...');
 end if;
end;
/
```

OUTPUT

```
SQL> @ E:\SKS\MC9217\Program_11\PLSQL_Student.txt
      Enter value for mode_i_insert_u_update: i
      old  17:  um := '&Mode_I_Insert_U_Update';
      new  17:  um := 'i';
      Enter value for registerno: 42207621039
      old  18:  rno := &RegisterNo;
      new  18:  rno := 42207621039;
      Enter value for name: Rajmohan
      old  19:  sn := '&Name';
      new  19:  sn := 'Rajmohan';
      Enter value for dept: MCA
      old  20:  sd := '&Dept';
      new  20:  sd := 'MCA';
      Enter value for subject1_mark: 67
      old  21:  s1 := &Subject1_Mark;
      new  21:  s1 := 67;
      Enter value for subject2_mark: 71
      old  22:  s2 := &Subject2_Mark;
      new  22:  s2 := 71;
      Enter value for subject3_mark: 68
      old  23:  s3 := &Subject3_Mark;
      new  23:  s3 := 68;
      Enter value for subject4_mark: 72
      old  24:  s4 := &Subject4_Mark;
      new  24:  s4 := 72;
      Enter value for subject5_mark: 79
      old  25:  s5 := &Subject5_Mark;
      new  25:  s5 := 79;

      1 Record Inserted...

      Register no.              : 42207621039
      Name                      : Rajmohan
      Department                : MCA
      Mark obtained in subject1 : 67
      Mark obtained in subject2 : 71
      Mark obtained in subject3 : 68
      Mark obtained in subject4 : 72
      Mark obtained in subject5 : 79
      Total marks obtained      : 357
      Average in all subjects   : 71.4
      Overall result            : Pass
      Grade                     : B

      PL/SQL procedure successfully completed.
```

```
SQL> /
      Enter value for mode_i_insert_u_update: u
      old  17:  um := '&Mode_I_Insert_U_Update';
      new  17:  um := 'u';
      Enter value for registerno: 42207621039
      old  18:  rno := &RegisterNo;
      new  18:  rno := 42207621039;
      Enter value for name: Good Student
      old  19:  sn := '&Name';
      new  19:  sn := 'Good Student';
      Enter value for dept: MCA
      old  20:  sd := '&Dept';
      new  20:  sd := 'MCA';
      Enter value for subject1_mark: 80
      old  21:  s1 := &Subject1_Mark;
      new  21:  s1 := 80;
      Enter value for subject2_mark: 80
      old  22:  s2 := &Subject2_Mark;
      new  22:  s2 := 80;
      Enter value for subject3_mark: 80
      old  23:  s3 := &Subject3_Mark;
      new  23:  s3 := 80;
      Enter value for subject4_mark: 80
      old  24:  s4 := &Subject4_Mark;
      new  24:  s4 := 80;
      Enter value for subject5_mark: 80
      old  25:  s5 := &Subject5_Mark;
      new  25:  s5 := 80;

      1 Record Updated...

      Register no.              : 42207621039
      Name                      : Good Student
      Department                : MCA
      Mark obtained in subject1 : 80
      Mark obtained in subject2 : 80
      Mark obtained in subject3 : 80
      Mark obtained in subject4 : 80
      Mark obtained in subject5 : 80
      Total marks obtained      : 400
      Average in all subjects   : 80
      Overall result            : Pass
      Grade                     : B

      PL/SQL procedure successfully completed.
```

```
SQL> /
      Enter value for mode_i_insert_u_update: Q
      old  17:  um := '&Mode_I_Insert_U_Update';
      new  17:  um := 'Q';
      Enter value for registerno: 42207621039
      old  18:  rno := &RegisterNo;
      new  18:  rno := 42207621039;
      Enter value for name: Bad Student
      old  19:  sn := '&Name';
      new  19:  sn := 'Bad Student';
      Enter value for dept: MCA
      old  20:  sd := '&Dept';
      new  20:  sd := 'MCA';
      Enter value for subject1_mark: 49
      old  21:  s1 := &Subject1_Mark;
      new  21:  s1 := 49;
      Enter value for subject2_mark: 49
      old  22:  s2 := &Subject2_Mark;
      new  22:  s2 := 49;
      Enter value for subject3_mark: 49
      old  23:  s3 := &Subject3_Mark;
      new  23:  s3 := 49;
      Enter value for subject4_mark: 49
      old  24:  s4 := &Subject4_Mark;
      new  24:  s4 := 49;
      Enter value for subject5_mark: 49
      old  25:  s5 := &Subject5_Mark;
      new  25:  s5 := 49;

      Invalid choice...

      PL/SQL procedure successfully completed.
```

RESULT:

Thus, the above program was executed successfully.