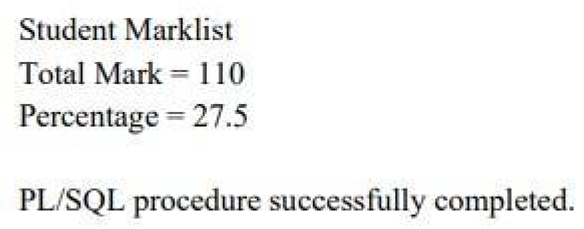
ADVANCED DATABASE MANAGEMENT SYSTEM-LAB CYCLE 2

1. Write a PL/SQL code to calculate total and percentage of marks of a student in four subjects.

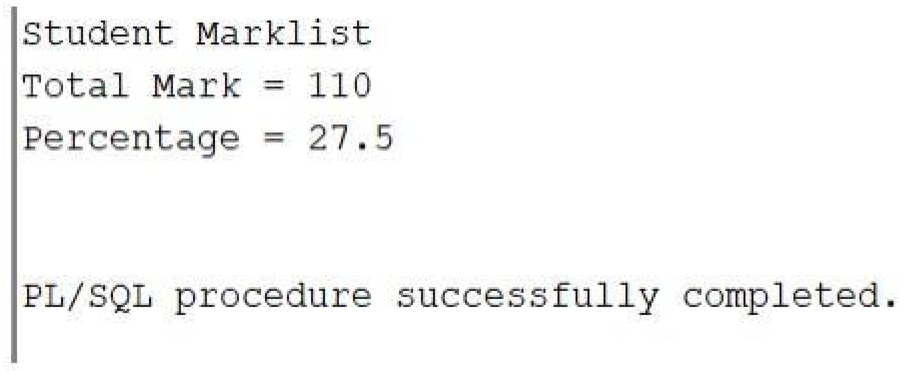
```
  declare
 rollno number;
mark1 number;
mark2 number;
mark3 number;
mark4 number;
total number;
percentage number(8,2);
         begin
rollno:=&rollno;
mark1:=&mark1;
mark2:=&mark2;
mark3:=&mark3;
mark4:=&mark4;
total:=mark1+mark2+mark3+mark4;
percentage:=total*0.25;
dbms_output.put_line('Student Marklist');
dbms_output.put_line('Total Mark = '|| total);
dbms_output.put_line('Percentage = '|| percentage);
```

end;

output



```
Student Marklist
Total Mark = 110
Percentage = 27.5

PL/SQL procedure successfully completed.
```



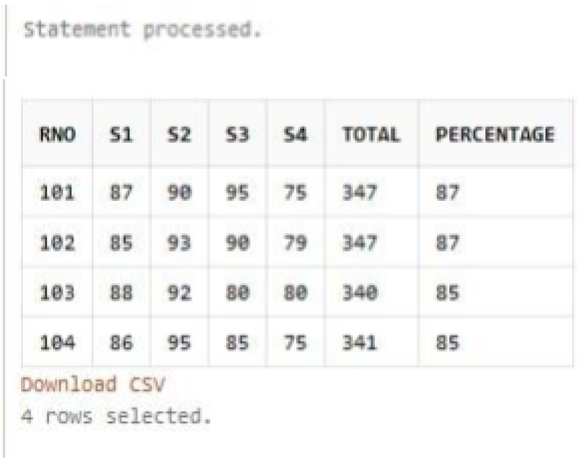
```
Student Marklist
Total Mark = 110
Percentage = 27.5


PL/SQL procedure successfully completed.
```

2.Write a PL/SQL code to calculate the total and the percentage of marks of the students in four subjects from the table, STUDENT with the following schema.

STUDENT (RNO , S1 , S2, S3, S4, total, percentage).

```
create table student (Rno number(5) primary key,s1 number(3),s2
number(3),s3 number(3),s4 number(3),total number(5,2),percentage
number(5));

insert into student values(101,87,90,95,75,0,0);

 insert into student values(102,85,93,90,79,0,0);

insert into student values(103,88,92,80,80,0,0);

insert into student values(104,86,95,85,75,0,0);

select*from student;
```

```
declare
t student.total%type;
p student.percentage%type;
cursor STU is select * from student;
rw stu%rowtype;
begin
open STU;
loop
                fetch STU into rw;
               exit when STU%notfound;
                t:=rw.s1+rw.s2+rw.s3+rw.s4;
                p:=t*0.25;
                update student set total=t,percentage=p where
Rno=rw.Rno;
           end loop;
           close stu;
end;
     select*from student; output
```



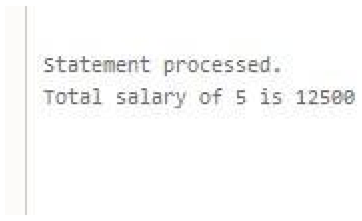
```
Statement processed.
```

RNO	S1	S2	S3	S4	TOTAL	PERCENTAGE
101	87	90	95	75	347	87
102	85	93	90	79	347	87
103	88	92	80	80	340	85
104	86	95	85	75	341	85

```
Download CSV
4 rows selected.
```

3. Write a PL/SQL code to calculate the total salary amount of first n records of employee table.

```
create table employee(empid number(4),emp_name varchar(10),salary
number(5),dept_id number(4),dpt_name varchar(10));
insert into employee values(1,'anu',1000,10,'accounts');
 insert into employee values(2,'manu',2000,11,'sales');
 insert into employee values(3,'sanu',2500,12,'marketing');
 insert into employee values(4,'tanu',3000,13,'accounts');
 insert into employee values(5,'ranu',4000,14,'sales');


    declare
 n number;
i number:=1;
tot number:=0;
 cursor emp is select salary from employee;
cemp emp%rowtype;
begin
                n:=5;
        open emp;
        while (i<=n)
                loop
         fetch emp into cemp;
tot:=tot+cemp.salary;
                        i:=i+1;
                end loop;

                dbms_output.put_line('Total salary of '||n||' is '||tot);

                close emp;

end;
```

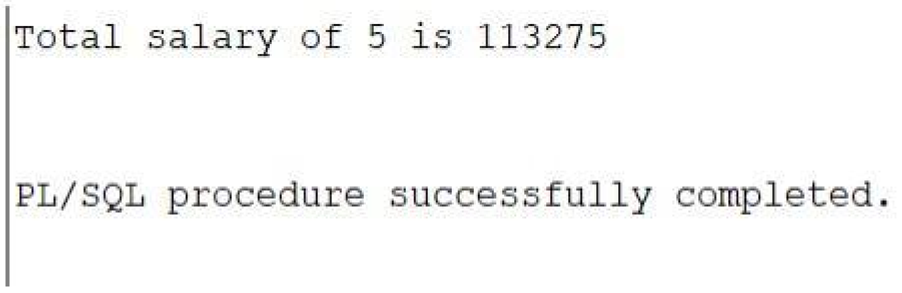


```
Statement processed.
Total salary of 5 is 12500
```

4. Use Cursors and add a user-defined exception to raise an exception if the number of employees in a particular department is less than 2. If the number of employees is less than 2, then print a message ‘Department status needs 2 or more employees’. If the number is greater than 2, then populate the Department_stat table (dname, tot_emps, tot_salary).

```
declare

        dep_id demployees.department_id%type;

        cursor dep is select * from demployees where department_id = dep_id;

        rw dep%rowtype;

        tl_emp number:=0;

        tl_sal number:=0;

        dep_name varchar(15);

        execp exception;

        begin

dep_id:=&dep_id;

open dep;
```

```
                    select department_name into dep_name from ddepartments
where department_id = dep_id;
                    loop

                     fetch dep into rw;

          exit when dep%notfound;

          tl_emp:=tl_emp+1;

                              tl_sal := tl_sal + rw.salary;

                    end loop;

          if(tl_emp<2) then

          raise execp;

else

                              insert into department_stat values(dep_name , tl_emp ,
tl_sal);

                    end if;

          close dep;

exception

 when execp then

          dbms_output.put_line('dep status needs 2 or more employees');

          end;
```



```
Total salary of 5 is 113275


PL/SQL procedure successfully completed.
```

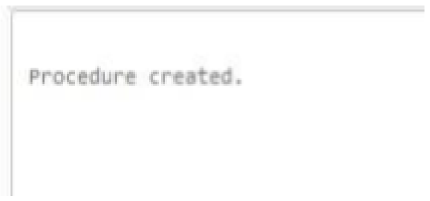
5. Write a PL/SQL procedure to perform the concatenation of two strings. Strings need to be accepted through parameter passing.

```
create or replace procedure c_string(str1 in varchar,str2 in varchar) as
        str3 varchar(20);
        begin
                str3:=CONCAT(str1,str2);
                dbms_output.put_line('concatenated string is:'||str3);
        end;



declare
str1 varchar(20);
str2 varchar(20);
        begin
str1:='Anila';
str2:='Mathew';
c_string(str1,str2);
        end;
```

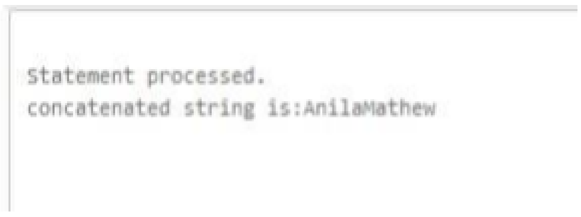
OR (While in offline mode)

```
create or replace procedure c_string(str1 in varchar,str2 in varchar) as
        str3 varchar(20);
 begin
                str3:=CONCAT(str1,str2);
```

```
                    dbms_output.put_line('concatenated string is:'||str3);
          end;
/



accept str1 prompt 'enter the value of frist string:';
accept str2 prompt 'enter the value of second string:';
declare
str1 varchar(20);
str2 varchar(20);
          begin
str1:='&str1';
str2:='&str2';
c_string(str1,str2);
          end;
/
```



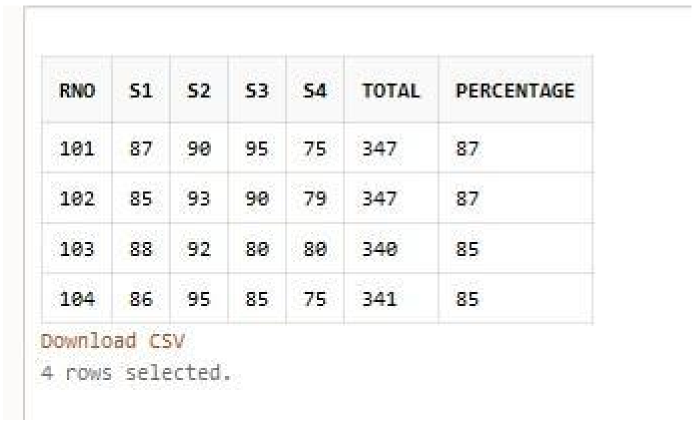
```
Procedure created.
```



```
Statement processed.
concatenated string is:AnilaMathew
```

6. Write a PL/SQL procedure to find the number of students ranging from 10070%, 69-60%, 59-50% & below 49% from the STUDENT table.

```
create table student (Rno number(5) primary key,s1 number(3),s2 number(3),s3 number(3),s4 number(3),total number(5,2),percentage number(5));

insert into student values(101,87,90,95,75,347,87);

insert into student values(102,85,93,90,79,347,87);

 insert into student values(103,88,92,80,80,340,85);

insert into student values(104,86,95,85,75,341,85);

select*from student;
```

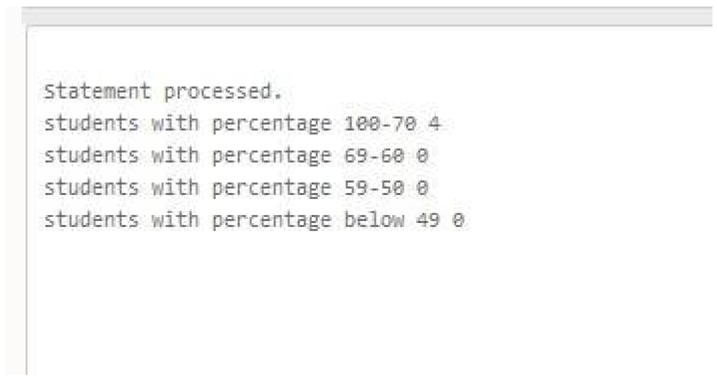


RNO	S1	S2	S3	S4	TOTAL	PERCENTAGE
101	87	90	95	75	347	87
102	85	93	90	79	347	87
103	88	92	80	80	340	85
104	86	95	85	75	341	85

Download CSV
4 rows selected.

```
declare

 cursor cur_stud is select percentage as p from student_19;

c70 int; c60 int; c50 int; c49 int;

 rw cur_stud%rowtype;

begin

  c70:=0;

c50:=0;
```

```
c60:=0;
c49:=0;
 open cur_stud;  loop
            fetch cur_stud into rw;
            exit when cur_stud%notfound;
            if (rw.p >=70) and (rw.p<=100) then
              c70:=c70+1;
            else if (rw.p >=60) and (rw.p<=69) then
c60:=c60+1;
            else if (rw.p >=50) and (rw.p<=59) then
              c50:=c50+1;
else
              c49:=c49+1;
            end if;
end if;
end if;
 end loop;
 close cur_stud;
dbms_output.put_line('students with percentage 100-70 ' ||c70);
dbms_output.put_line('students with percentage 69-60 ' ||c60);
dbms_output.put_line('students with percentage 59-50 ' ||c50);
dbms_output.put_line('students with percentage below 49 ' ||c49);
 end;
```

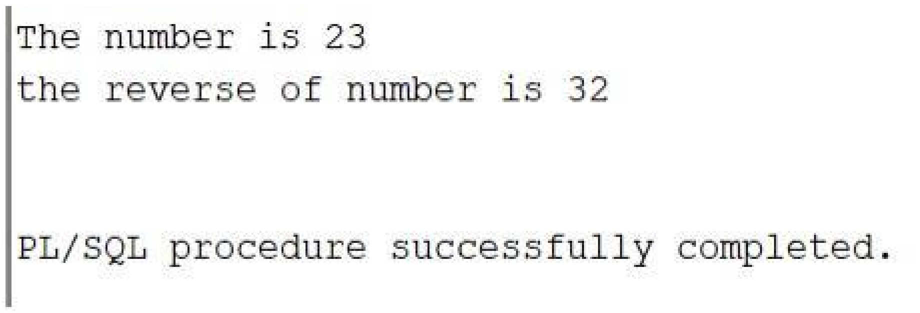


```
Statement processed.
students with percentage 100-70 4
students with percentage 69-60 0
students with percentage 59-50 0
students with percentage below 49 0
```

7.Create a function that accepts a number and returns its reverse value. Also write the program to invoke this function.

```
declare
        a int;
        c int;
        n int;
        rev int:=0;
        r int;
        function reverse_it( x IN int) return int as z int;
        begin
        n := x;
        while (n > 0)
                loop
                  r := mod(n , 10);
        rev := (rev * 10) + r;
        n := n / 10;
        end loop;
```

```
                z := rev;
        return z;
end ;
BEGIN
        a := &a;
        c := reverse_it(a);
        dbms_output.put_line('the reverse of number is ' || c);
 END;
```

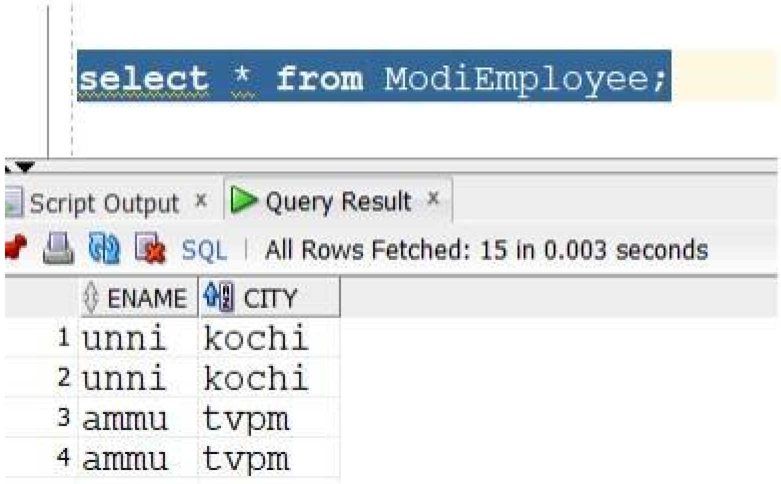


```
The number is 23
the reverse of number is 32


PL/SQL procedure successfully completed.
```

9. Write a row trigger to add the details of new employees in Newemployee table, relieved employees in DelEmployee table and updated employees in ModiEmployee table. Trigger need to be fired after the insertion/deletion/updation made with Employee table.

```
CREATE OR REPLACE TRIGGER mytrig2
        AFTER DELETE OR INSERT OR UPDATE ON employee19
        FOR EACH ROW BEGIN IF DELETING THEN
                INSERT INTO delemployee19(ename,city) VALUES (:old.ename, :old.city);
        ELSE
                 INSERT INTO modiemployee19(ename,city) VALUES (:new.ename, :old.city);
        END IF;
END;
```

output



```
select * from ModiEmployee;
```

Script Output × | Query Result ×

SQL | All Rows Fetched: 15 in 0.003 seconds

	ENAME	CITY
1	unni	kochi
2	unni	kochi
3	ammu	tvpm
4	ammu	tvpm