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ASSESSMENT -4
DATABASE SYSTEMS & DESIGN
CSE 5011

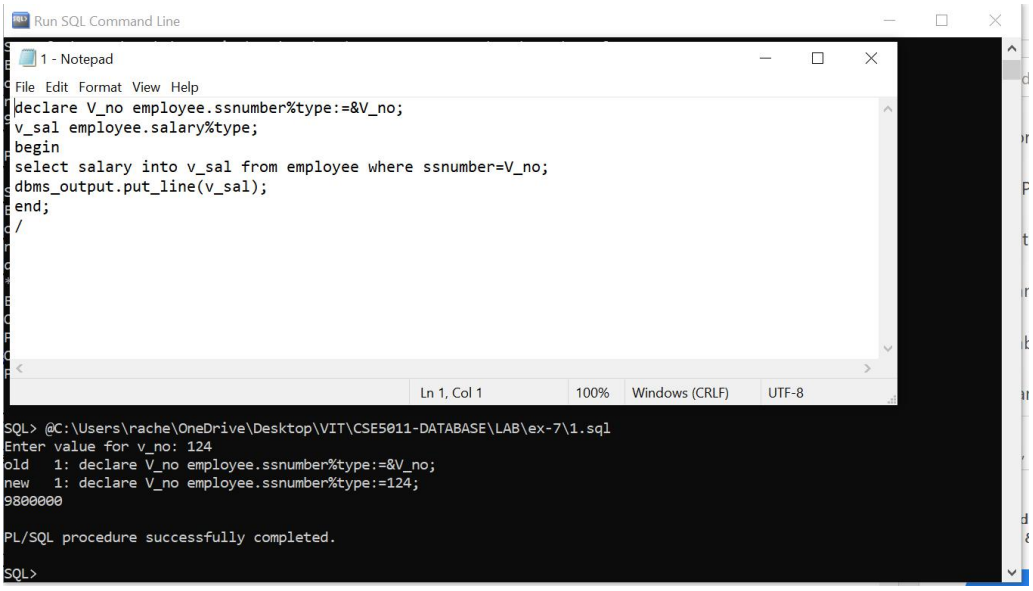
NAME: KAUSHAL BAGHEL
ROLL NO: 21MAI0003
SLOT :L47+L48
FACULTY : Dr. SWATHI J.N.

Exercise - VII:

Aim: To understand the concept of PL/SQL Programming

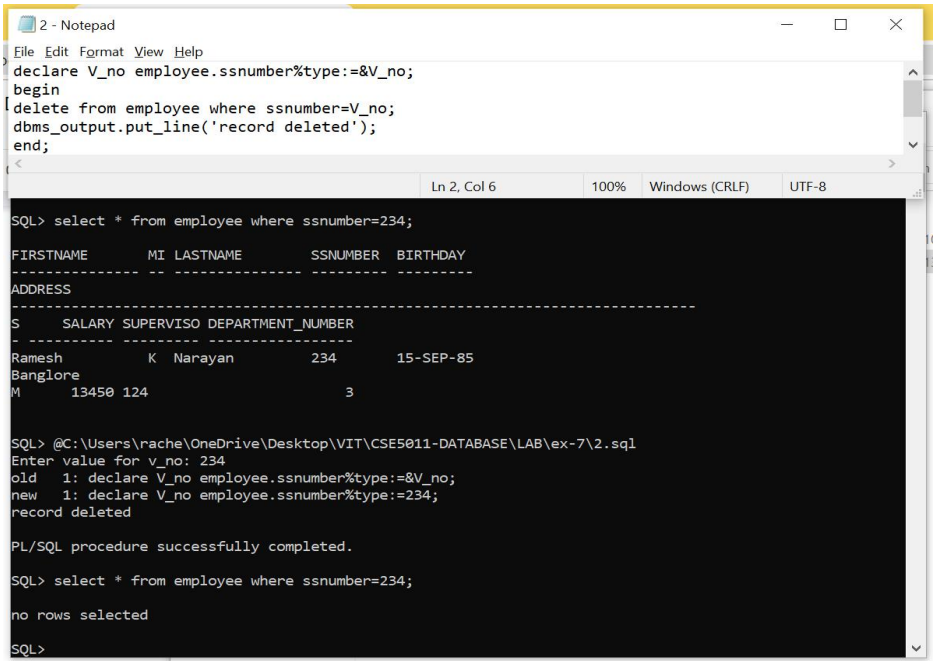
1. Write a PL/SQL block to accept an empno and display the salary of the person.

   ```
   declare V_no employee.ssnumber%type:=&V_no;
   v_sal employee.salary%type;
   begin
   select salary into v_sal from employee where ssnumber=V_no;
   dbms_output.put_line(v_sal);
   end;
   /
   ```



2. Write a PL/SQL program to delete one record in the employee table.

   ```
   declare V_no employee.ssnumber%type:=&V_no;
   begin
   delete from employee where ssnumber=V_no;
   dbms_output.put_line('record deleted');
   end;
   /
   ```



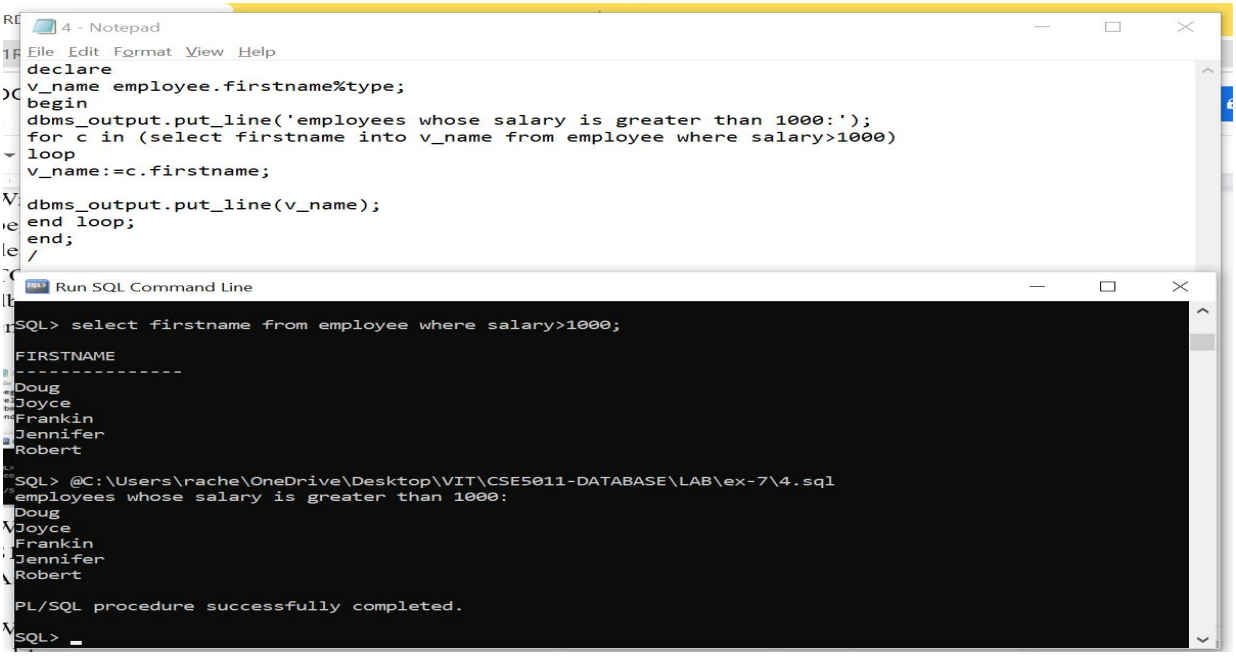
3. Write a program to delete employee details who are having age >60.

```
begin
delete from employee where ROUND((SYSDATE - TO_DATE(BIRTHDAY))/365.25)>60;
dbms_output.put_line('record deleted');
end;
/
```

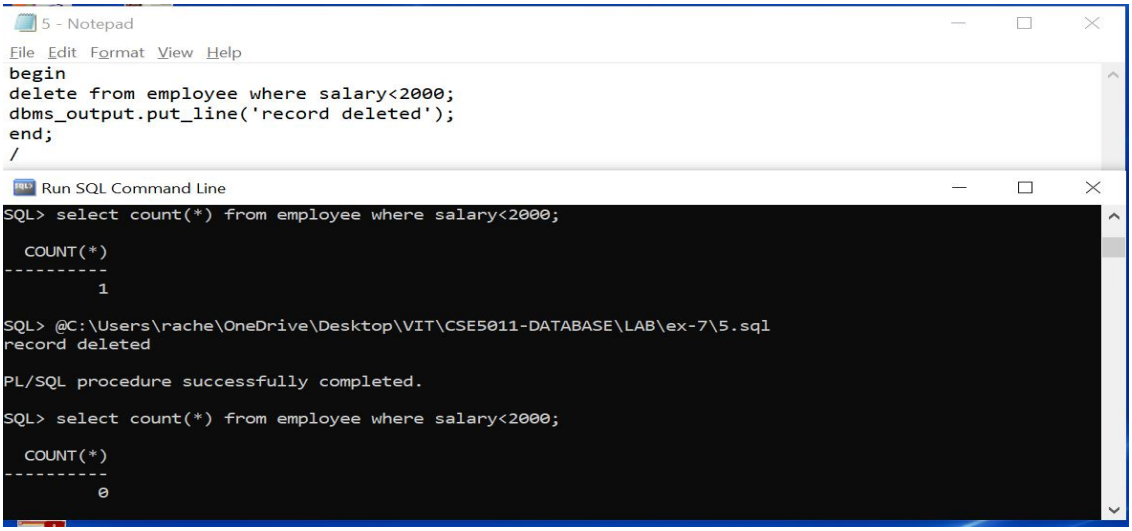
4. Write a PL/SQL block to display employees who make a minimum salary of $1,000.
   Assume that salary is in '$'.

```
declare
v_name employee.firstname%type;
begin
dbms_output.put_line('employees whose salary is greater than 1000:');
```

for c in (select firstname into v_name from employee where salary>1000)
loop
v_name:=c.firstname;
dbms_output.put_line(v_name);
end loop;
end;
/



5. Write a PL/SQL to delete a records whose basic salary is <2000 from Emp table.
begin
delete from employee where salary<2000;
dbms_output.put_line('record deleted');
end;
/

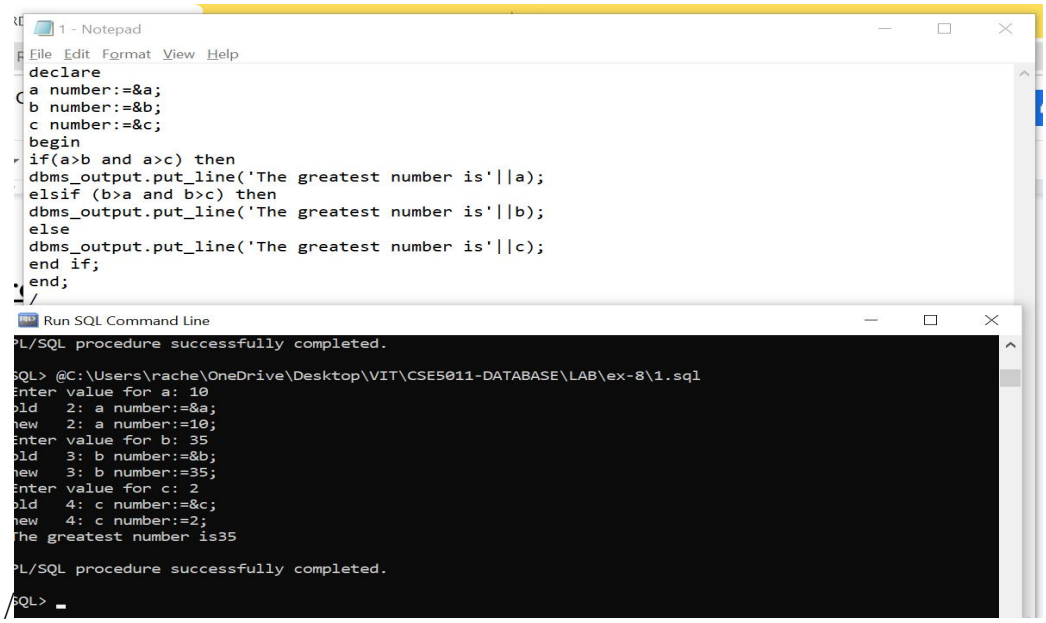


Exercise - VIII:

Aim: To know the usage of different sequential control structures in PL/SQL effective programming

1. Write a PL/SQL block to find the greatest of three numbers.

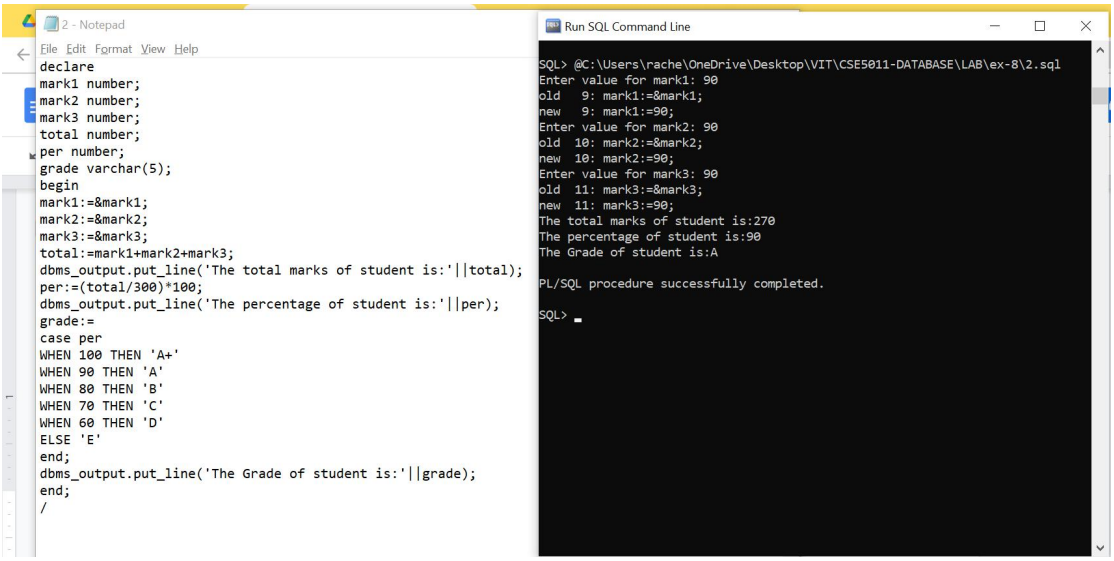
```
declare
a number:=&a;
b number:=&b;
c number:=&c;
begin
if(a>b and a>c) then
dbms_output.put_line('The greatest number is'||a);
elsif (b>a and b>c) then
dbms_output.put_line('The greatest number is'||b);
else
dbms_output.put_line('The greatest number is'||c);
end if;
end;
/
```



2. Write a PL/SQL code to print the student's grade accepting their marks in three subjects (hint use: case selector….)

```
declare
mark1 number;
mark2 number;
mark3 number;
total number;
per number;
grade varchar(5);
begin
mark1:=&mark1;
mark2:=&mark2;
mark3:=&mark3;
total:=mark1+mark2+mark3;
dbms_output.put_line('The total marks of student is:'||total);
per:=(total/300)*100;
dbms_output.put_line('The percentage of student is:'||per);
grade:=
case per
WHEN 100 THEN 'A+'
WHEN 90 THEN 'A'
WHEN 80 THEN 'B'
WHEN 70 THEN 'C'
WHEN 60 THEN 'D'
ELSE 'E'
end;
```

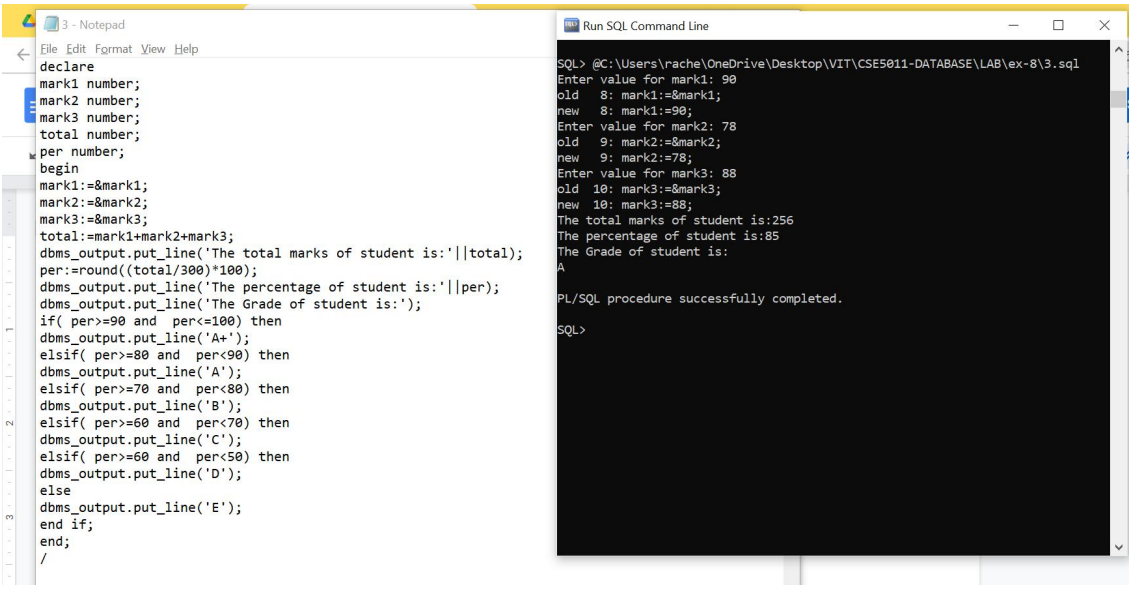
```
dbms_output.put_line('The Grade of student is:'||grade);
end;
/
```



OR

```
declare
mark1 number;
mark2 number;
mark3 number;
total number;
per number;
begin
mark1:=&mark1;
mark2:=&mark2;
mark3:=&mark3;
total:=mark1+mark2+mark3;
dbms_output.put_line('The total marks of student is:'||total);
per:=round((total/300)*100);
dbms_output.put_line('The percentage of student is:'||per);
dbms_output.put_line('The Grade of student is:');
if( per>=90 and  per<=100) then
dbms_output.put_line('A+');
elsif( per>=80 and  per<90) then
dbms_output.put_line('A');
elsif( per>=70 and  per<80) then
dbms_output.put_line('B');
elsif( per>=60 and  per<70) then
dbms_output.put_line('C');
elsif( per>=60 and  per<50) then
dbms_output.put_line('D');
else
```

```
dbms_output.put_line('E');
end if;
end;
/
```



Exercise –IX :

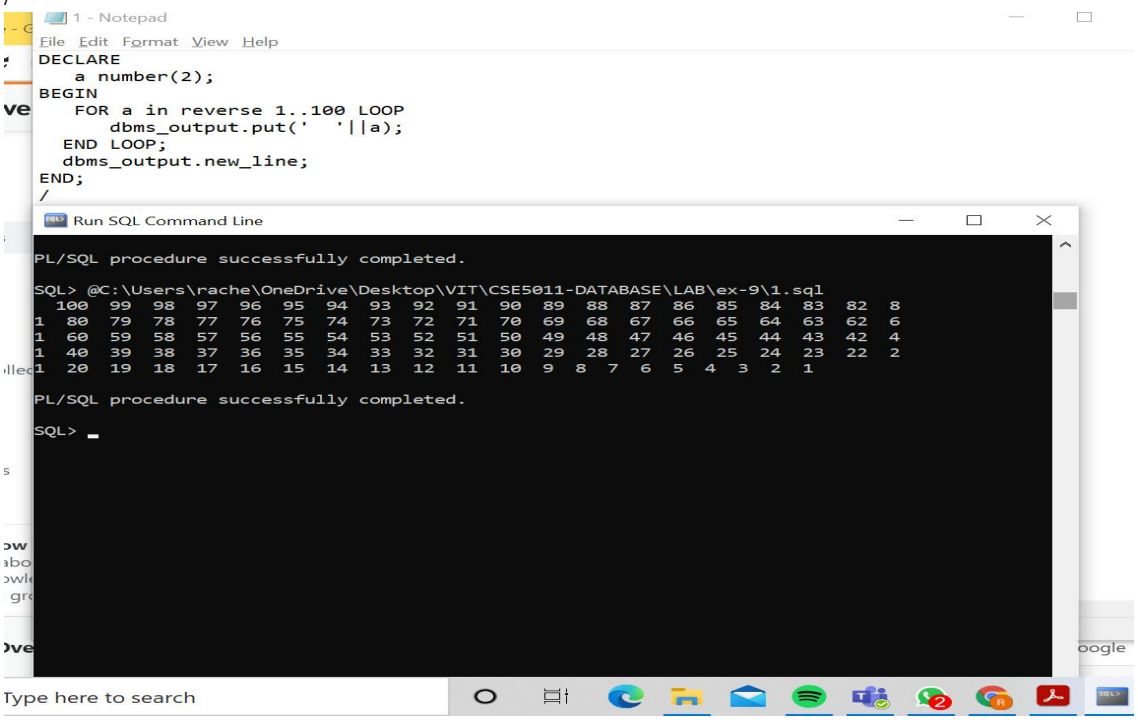
Aim: To understand the concepts of Iterations and Subprogram (Procedures and Functions)

Iterations

1. Write a PL/SQL code to print the numbers in reverse order from 100 to 1.

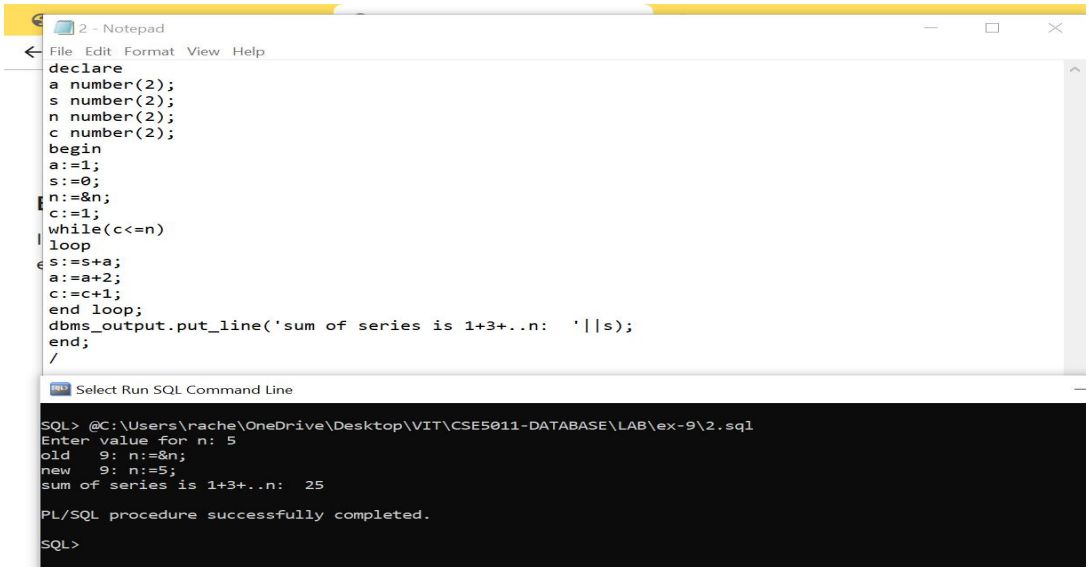
```
declare
  a number(2);
begin
  for a in reverse 1..100 loop
    dbms_output.put('  '||a);
 end loop;
 dbms_output.new_line;
```

```
end;
/
```



2. Create a pl/sql block to find the sum of series 1+3+5+……+n .

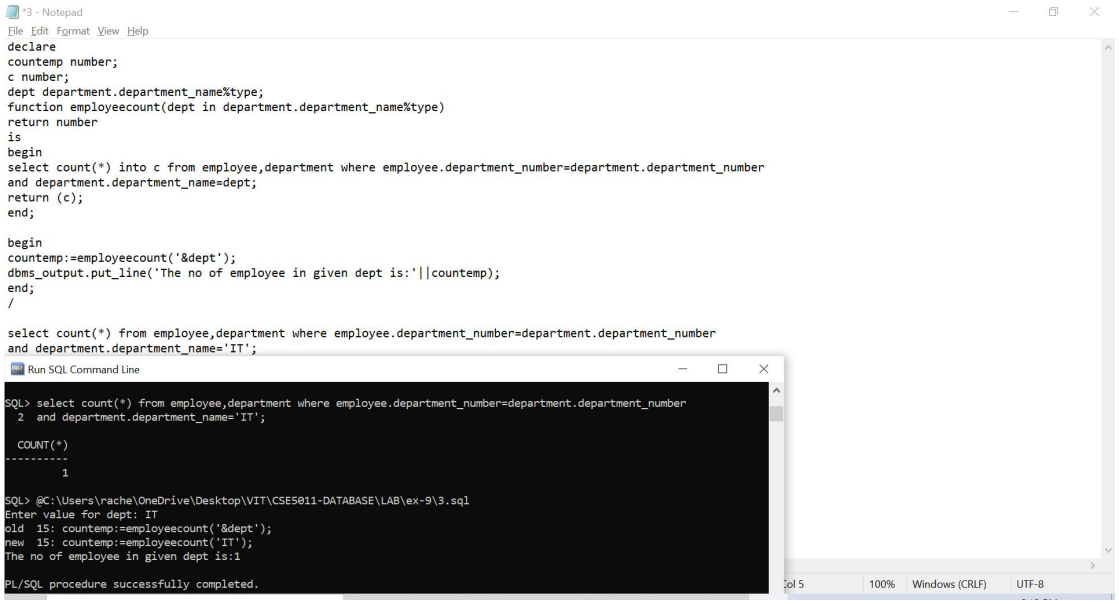
```
declare
a number(2);
s number(2);
n number(2);
c number(2);
begin
a:=1;
s:=0;
n:=&n;
c:=1;
while(c<=n)
loop
s:=s+a;
a:=a+2;
c:=c+1;
end loop;
dbms_output.put_line('sum of series is 1+3+..n:  '||s);
end;
/
```



Functions

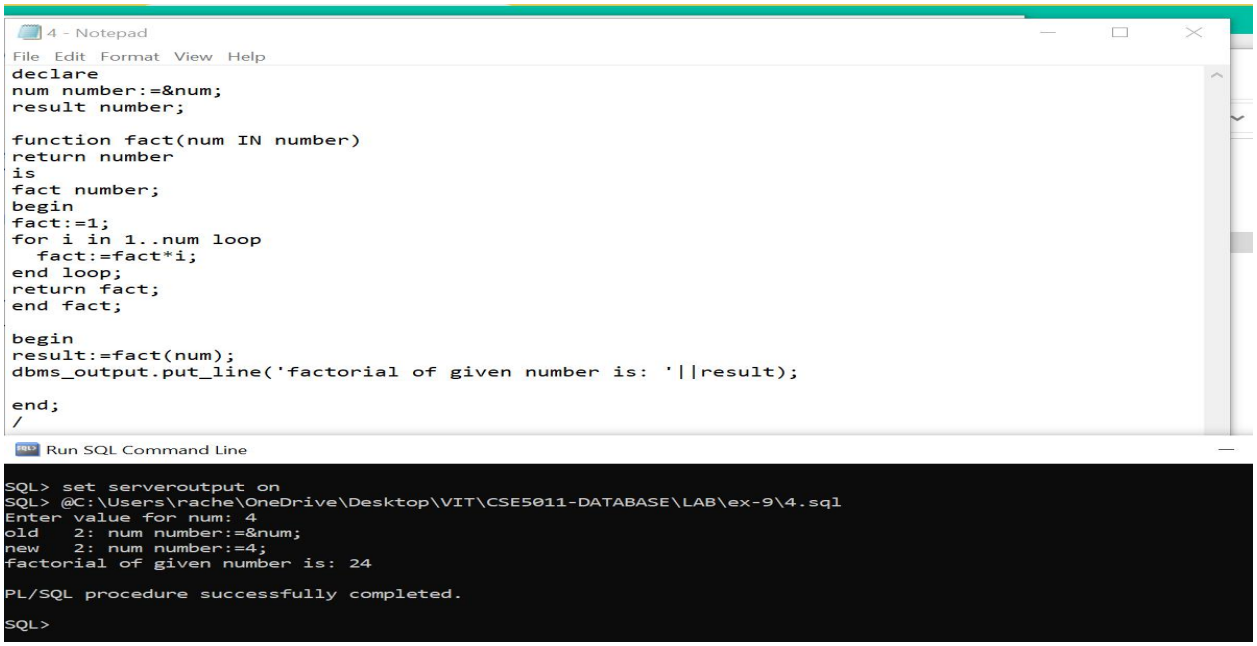
3. Write a function to give the number of employees for a given Department name.

```
declare
countemp number;
c number;
dept department.department_name%type;
function employeecount(dept in department.department_name%type)
return number
is
begin
select count(*) into c from employee,department where
employee.department_number=department.department_number
and department.department_name=dept;
return (c);
end;
begin
countemp:=employeecount('&dept');
dbms_output.put_line('The no of employee in given dept is:'||countemp);
end;
/
```



4. Write a PL/SQL to find the factorial of the given number using function.

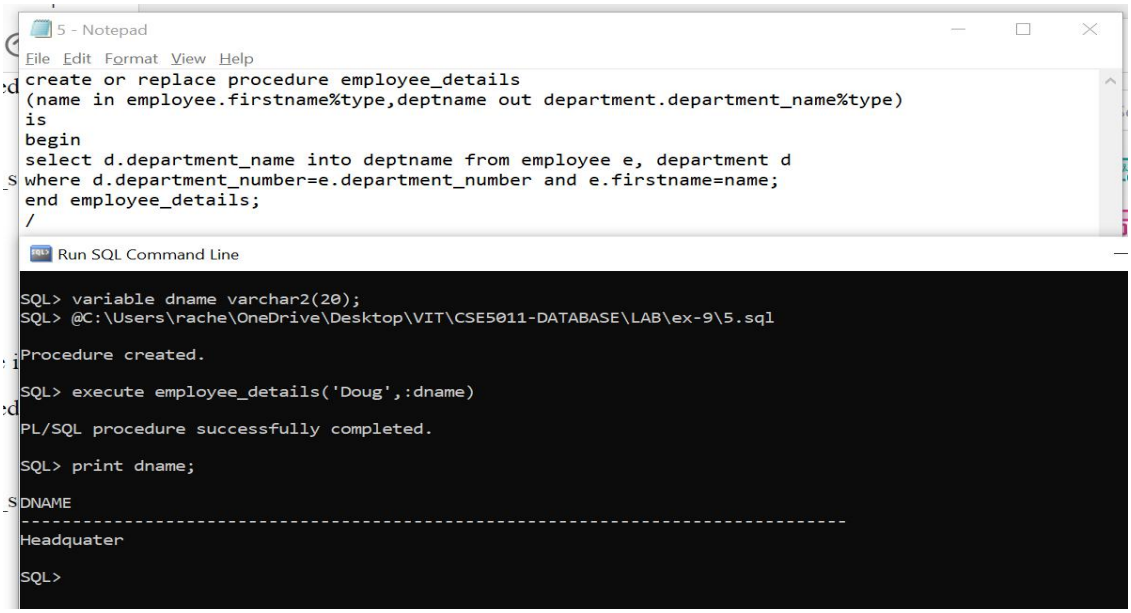
```
declare
num number:=&num;
result number;
function fact(num IN number)
return number
is
fact number;
begin
fact:=1;
for i in 1..num loop
  fact:=fact*i;
end loop;
return fact;
end fact;
begin
result:=fact(num);
dbms_output.put_line('factorial of given number is: '||result);
end;
/
```



Procedure

5. Write a procedure to accept an employee name and display his Department names.

```
create or replace procedure employee_details
(name in employee.firstname%type,deptname out
department.department_name%type)
is
begin
select d.department_name into deptname from employee e, department d
where d.department_number=e.department_number and
e.firstname=name;
end employee_details;
/
```



Exercise - X:

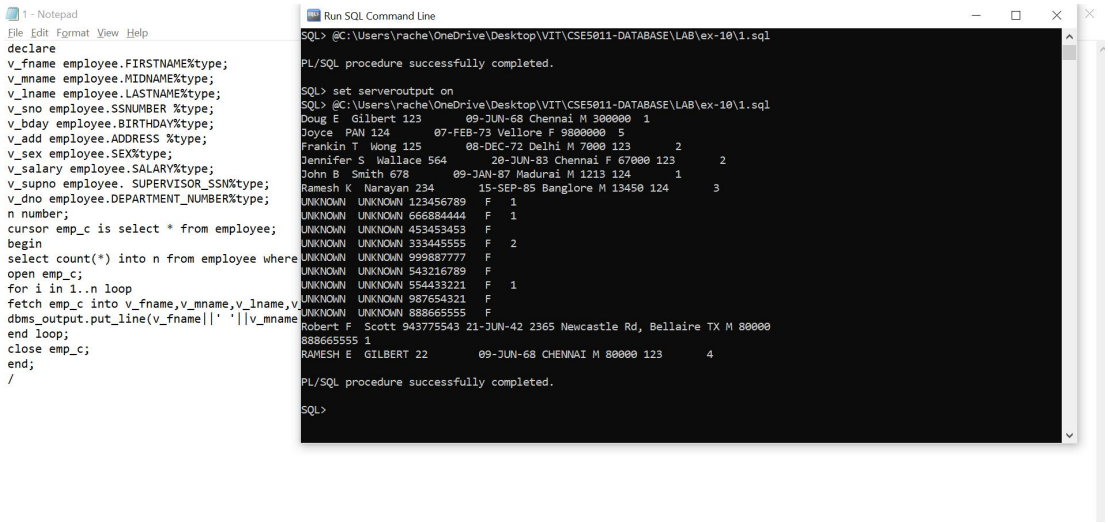
Cursor

Aim: To understand implicit and explicit cursor in PL/SQL

1. Retrieve the employee details using cursors.

```
declare
v_fname employee.FIRSTNAME%type;
v_mname employee.MIDNAME%type;
v_lname employee.LASTNAME%type;
v_sno employee.SSNUMBER %type;
v_bday employee.BIRTHDAY%type;
v_add employee.ADDRESS %type;
v_sex employee.SEX%type;
v_salary employee.SALARY%type;
v_supno employee. SUPERVISOR_SSN%type;
v_dno employee.DEPARTMENT_NUMBER%type;
n number;
cursor emp_c is select * from employee;
13begin
select count(*) into n from employee where SSNUMBER is not null;
open emp_c;
for i in 1..n loop
fetch emp_c into
v_fname,v_mname,v_lname,v_sno,v_bday,v_add,v_sex,v_salary,v_supn
o,v_dno;
dbms_output.put_line(v_fname||' '||v_mname||' '||v_lname||' '||v_sno||'
'||v_bday||'
```

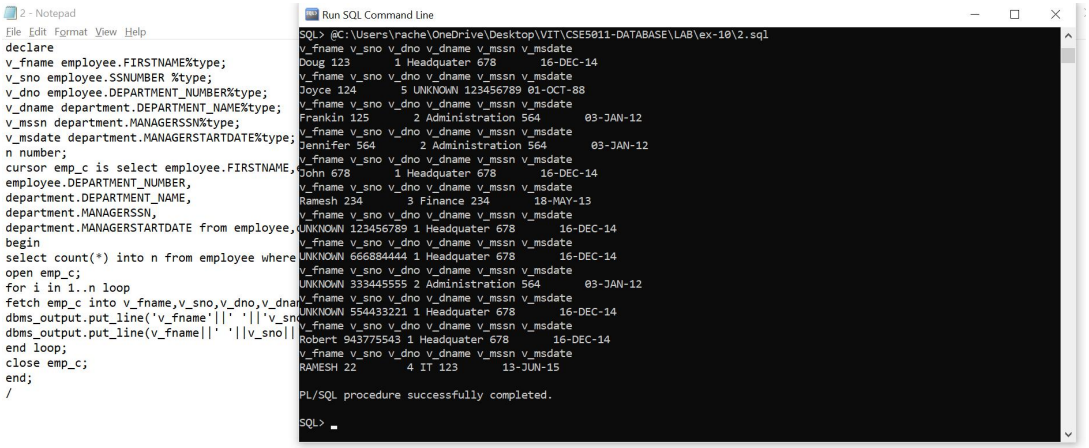
'||v_add||' '||v_sex||' '||v_salary||' '||v_supno||' '||v_dno);
end loop;
close emp_c;
end;
/



2. Write a cursor program to display all the employee and department details

v_fname employee.FIRSTNAME%type;
v_sno employee.SSNUMBER %type;
v_dno employee.DEPARTMENT_NUMBER%type;
v_dname department.DEPARTMENT_NAME%type;
v_mssn department.MANAGERSSN%type;
14v_msdate department.MANAGERSTARTDATE%type;
n number;
cursor emp_c is select employee.FIRSTNAME,employee.SSNUMBER,
employee.DEPARTMENT_NUMBER,
department.DEPARTMENT_NAME,
department.MANAGERSSN,
department.MANAGERSTARTDATE from employee,department where
employee.DEPARTMENT_NUMBER=department.DEPARTMENT_NU
MBER;
begin
select count(*) into n from employee where SSNUMBER is not null and
DEPARTMENT_NUMBER is not null;
open emp_c;
for i in 1..n loop
fetch emp_c into v_fname,v_sno,v_dno,v_dname,v_mssn,v_msdate;
dbms_output.put_line('v_fname'||' '||'v_sno'||' '||'v_dno'||' '||'v_dname'||'
'||'v_mssn'||'
'||'v_msdate');

```
dbms_output.put_line(v_fname||' '||v_sno||' '||v_dno||' '||v_dname||'
'||v_mssn||'
'||v_msdate);
end loop;
close emp_c;
end;
/
```



2 - Notepad

File Edit Format View Help

```
declare
v_fname employee.FIRSTNAME%type;
v_sno employee.SSNUMBER %type;
v_dno employee.DEPARTMENT_NUMBER%type;
v_dname department.DEPARTMENT_NAME%type;
v_mssn department.MANAGERSSN%type;
v_msdate department.MANAGERSTARTDATE%type;
n number;
cursor emp_c is select employee.FIRSTNAME,
employee.DEPARTMENT_NUMBER,
department.DEPARTMENT_NAME,
department.MANAGERSSN,
department.MANAGERSTARTDATE from employee,
begin
select count(*) into n from employee where
open emp_c;
for i in 1..n loop
fetch emp_c into v_fname,v_sno,v_dno,v_dnam
dbms_output.put_line('v_fname'||' '||'v_sn
dbms_output.put_line(v_fname||' '||v_sno||
end loop;
close emp_c;
end;
/
```

Run SQL Command Line

```
SQL> @C:\Users\rache\OneDrive\Desktop\VIT\CSE5011-DATABASE\LAB\ex-10\2.sql
v_fname v_sno v_dno v_dname v_mssn v_msdate
Doug 123       1 Headquater 678       16-DEC-14
v_fname v_sno v_dno v_dname v_mssn v_msdate
Joyce 124       5 UNKNOWN 123456789 01-OCT-88
v_fname v_sno v_dno v_dname v_mssn v_msdate
Frankin 125       2 Administration 564       03-JAN-12
v_fname v_sno v_dno v_dname v_mssn v_msdate
Jennifer 564       2 Administration 564       03-JAN-12
v_fname v_sno v_dno v_dname v_mssn v_msdate
John 678       1 Headquater 678       16-DEC-14
v_fname v_sno v_dno v_dname v_mssn v_msdate
Ramesh 234       3 Finance 234       18-MAY-13
v_fname v_sno v_dno v_dname v_mssn v_msdate
UNKNOWN 123456789 1 Headquater 678       16-DEC-14
v_fname v_sno v_dno v_dname v_mssn v_msdate
UNKNOWN 666884444 1 Headquater 678       16-DEC-14
v_fname v_sno v_dno v_dname v_mssn v_msdate
UNKNOWN 333445555 2 Administration 564       03-JAN-12
v_fname v_sno v_dno v_dname v_mssn v_msdate
UNKNOWN 554433221 1 Headquater 678       16-DEC-14
v_fname v_sno v_dno v_dname v_mssn v_msdate
Robert 943775543 1 Headquater 678       16-DEC-14
v_fname v_sno v_dno v_dname v_mssn v_msdate
RAMESH 22        4 IT 123       13-JUN-15

PL/SQL procedure successfully completed.

SQL>
```