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PL/SQL Programs on Case Study 2 & 5
(EMERGENCY ROOM INFORMATION SYSTEM) & (TOUR OPERATING SYSTEM)
PRE-LAB

1) Declare
```
Declare
fvar number := null; svar number := 5
Begin
goto << fproc>>
if fvar is null then
<< fproc>>
svar := svar + 5
end if;
End;
```
What will be the value of svar after the execution ?

Ans) Ouput : Syntax Error.

2) What is a stored procedure?

Ans) A stored procedure is a prepared sql code that you can save, so the code can be reused over and over again.

3) What are the different datatypes supported in PL/SQL

Ans) pl/sql provides many pre-defined data-types like integer, floating point , charcater , Boolean, date , collection,refrence and large object (lob) types.

4) What is the Result of the following 'VIK'||NULL||'RAM' ?

Ans) VIKRAM

5) A database is an extensive collection of records. In what form are they stored?

Ans) Database is a collection of data and records. They are stored in form of simple tables. Tables are related if they contain common fields.

6) In the index allocation scheme of blocks to a file, the maximum possible size of the life depends on ______

Ans) <u>the size of the blocks, the number of blocks used for the index and size of address of blocks.</u>

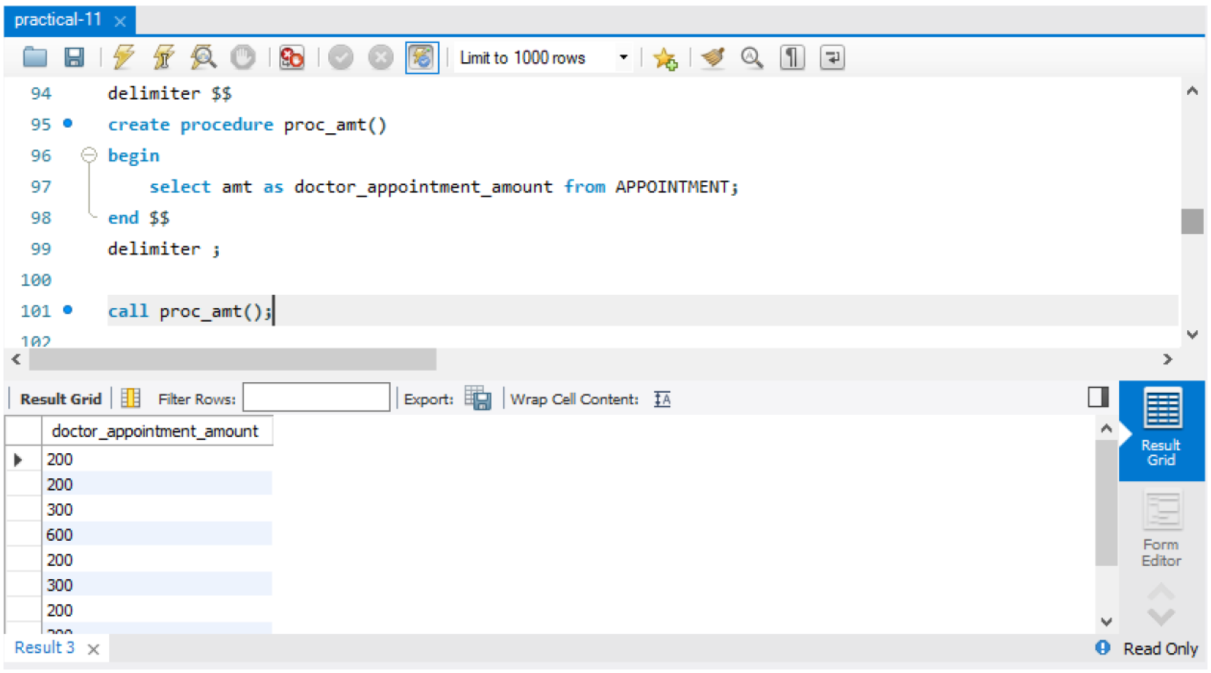
7) How many Clustered indexes can be created on table and why?

Ans) There can only be one clustered index per table , because the data row themselves can be stored in only one order. The only time the data rows in a table are stored in sorted order is when the table contains a clustered index.

INLAB

1) Write PL/SQL program to display doctor appointment fee amount value.

```
delimiter $$
create procedure proc_amt()
begin
        select amt as doctor_appointment_amount from APPOINTMENT;
end $$
delimiter ;

call proc_amt();
```

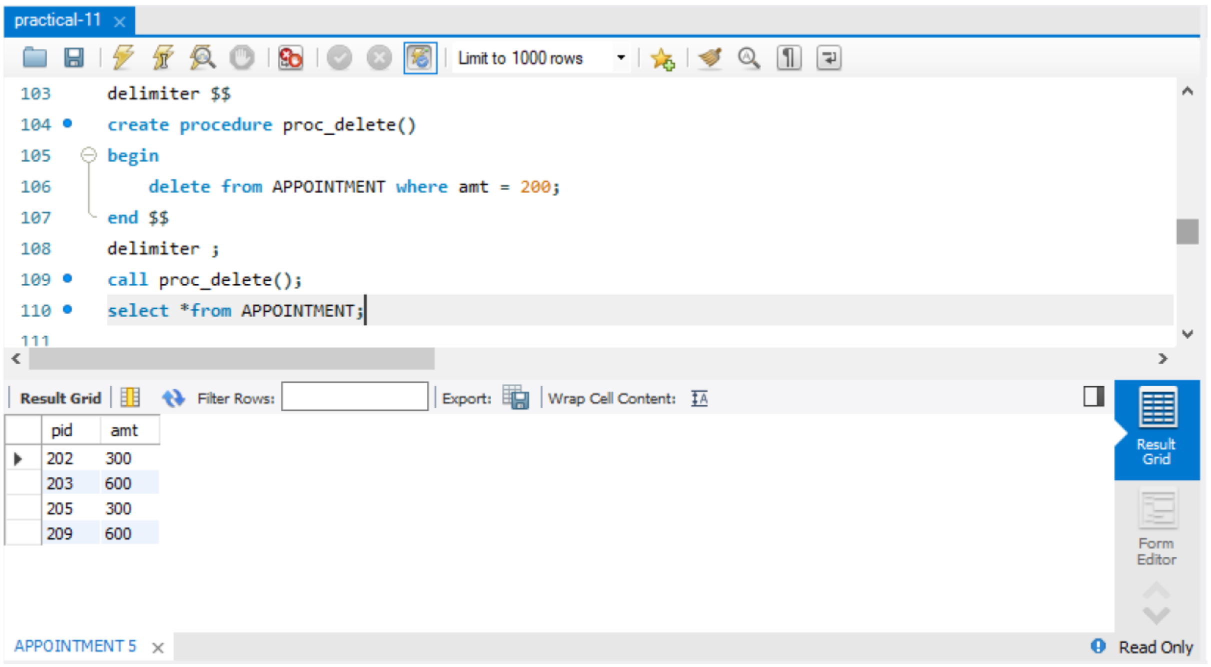


```
delimiter $$
create procedure proc_amt()
begin
    select amt as doctor_appointment_amount from APPOINTMENT;
end $$
delimiter ;

call proc_amt();
```

```
doctor_appointment_amount
200
200
300
600
200
300
200
```

2) Write PL/SQL program to delete appointment amount value 200

```
delimiter $$
create procedure proc_delete()
begin
        delete from APPOINTMENT where amt = 200;
end $$
delimiter ;
call proc_delete();
select *from APPOINTMENT;
```

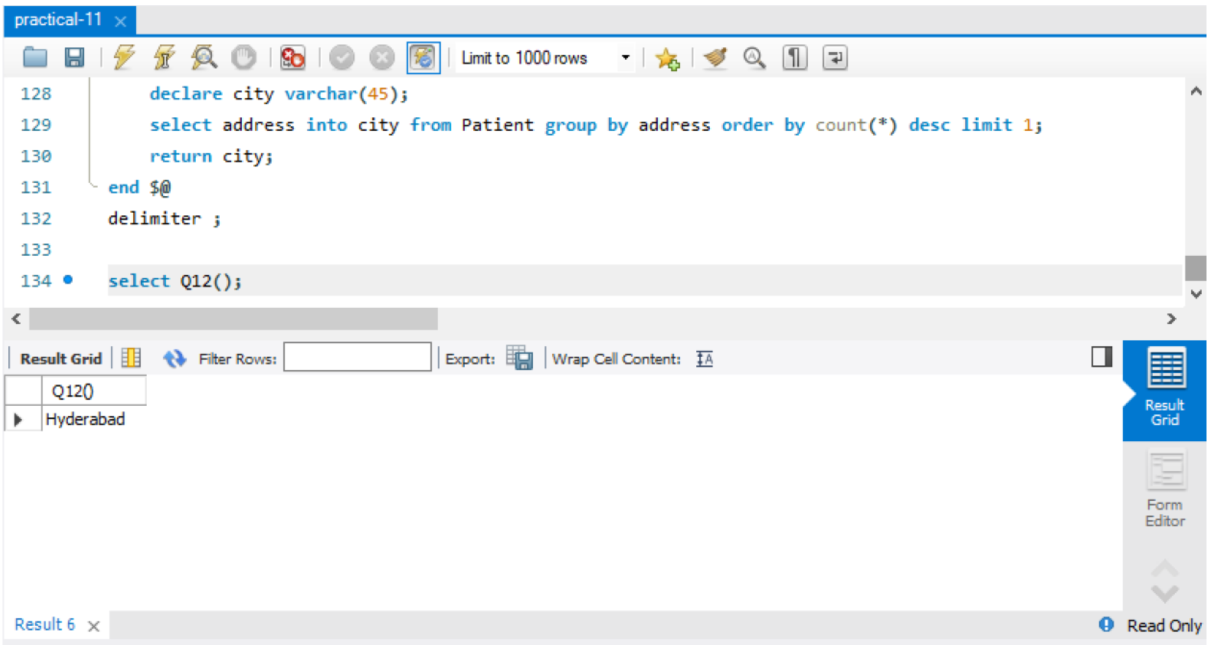


```
delimiter $$
create procedure proc_delete()
begin
    delete from APPOINTMENT where amt = 200;
end $$
delimiter ;
call proc_delete();
select *from APPOINTMENT;
```

pid	amt
202	300
203	600
205	300
209	600

3) Write a PL/SQL program using functions to display the address details from where the number of patients are more than 3.

```
delimiter $@
create function Q12() returns varchar(100)
deterministic
begin
        declare city varchar(45);
  select address into city from Patient group by address order by count(*) desc limit 1;
  return city;
end $@
delimiter ;

select Q12();
```

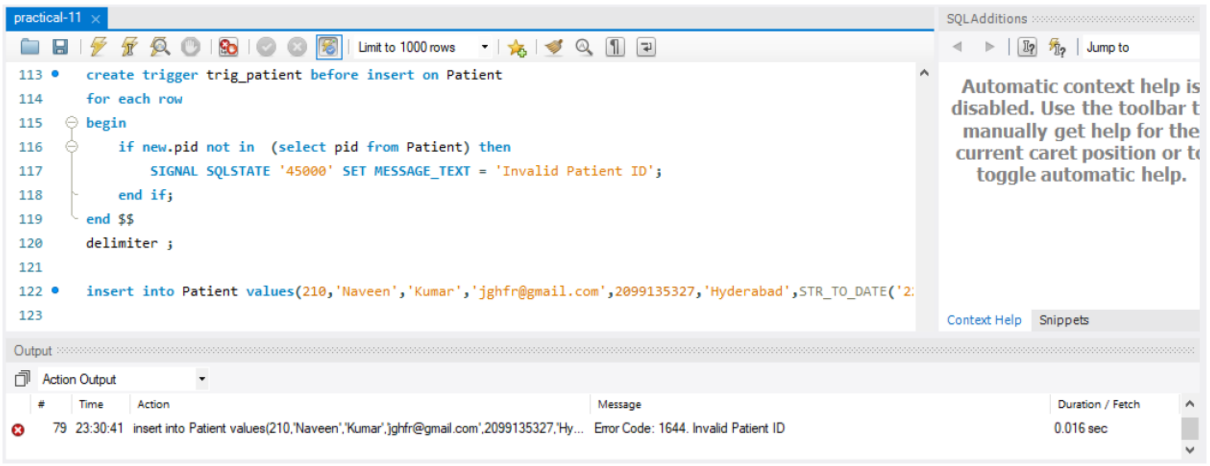


```
    declare city varchar(45);
    select address into city from Patient group by address order by count(*) desc limit 1;
    return city;
end $@
delimiter ;

select Q12();
```

```
Q12()
Hyderabad
```

4) Write an PL/SQL program using triggers to raise an exception on invalid patient ID

```
delimiter $$
create trigger trig_patient before insert on Patient
for each row
begin
        if new.pid not in  (select pid from Patient) then
                SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Invalid Patient ID';
        end if;
end $$
delimiter ;

insert into Patient values(210,'Naveen','Kumar','jghfr@gmail.com',2099135327,'Hyderabad'
,STR_TO_DATE('22-04-2020','%d-%m-%Y'));
```



```
create trigger trig_patient before insert on Patient
for each row
begin
    if new.pid not in  (select pid from Patient) then
        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Invalid Patient ID';
    end if;
end $$
delimiter ;

insert into Patient values(210,'Naveen','Kumar','jghfr@gmail.com',2099135327,'Hyderabad',STR_TO_DATE('2
```

```
#   Time      Action                                                                          Message                                    Duration / Fetch
79  23:30:41  insert into Patient values(210,'Naveen','Kumar','jghfr@gmail.com',2099135327,'Hy...  Error Code: 1644. Invalid Patient ID   0.016 sec
```

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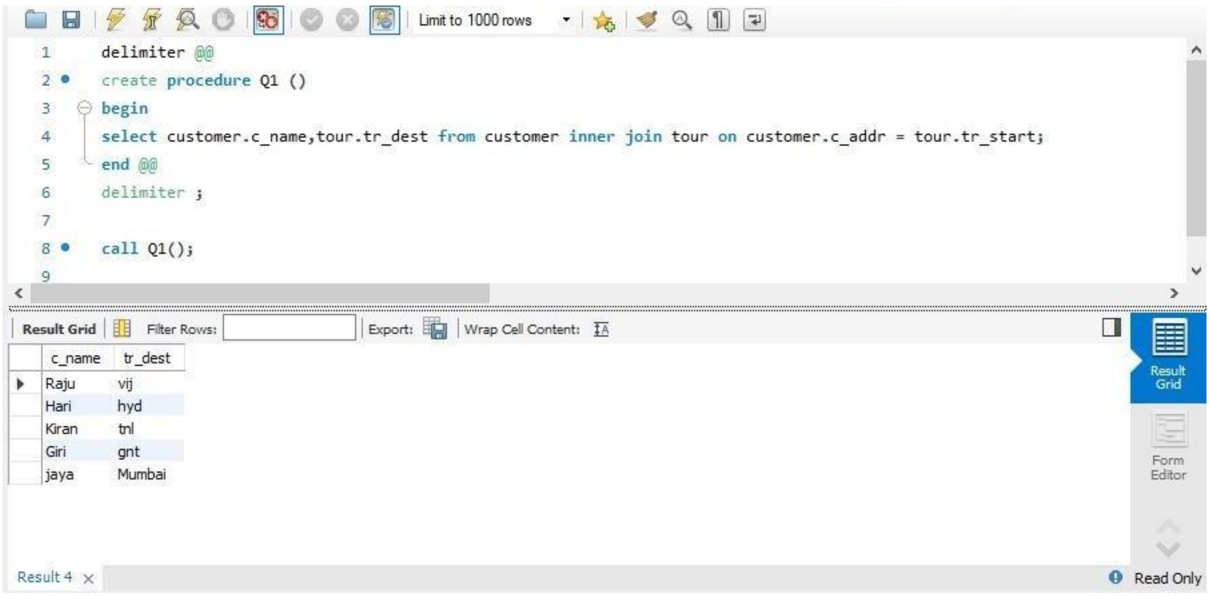
PL/SQL programs on TOUR OPERATING SYSTEM

1) Create a procedure to display the tourist details who are visiting the same place

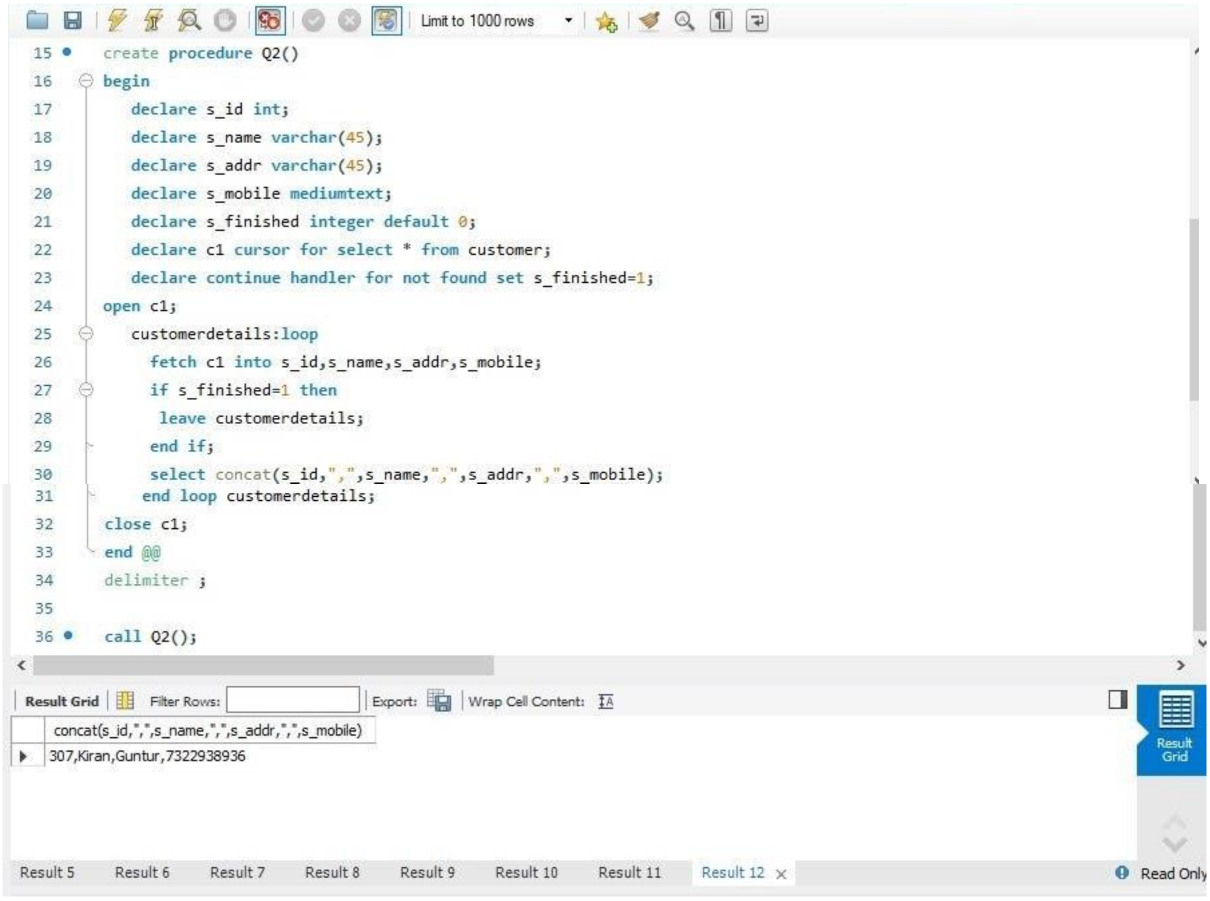


```sql
delimiter @@
create procedure Q1 ()
begin
select customer.c_name,tour.tr_dest from customer inner join tour on customer.c_addr = tour.tr_start;
end @@
delimiter ;

call Q1();
```

c_name	tr_dest
Raju	vij
Hari	hyd
Kiran	tnl
Giri	gnt
jaya	Mumbai

2) Create a cursor to display the details of the customers/tourists

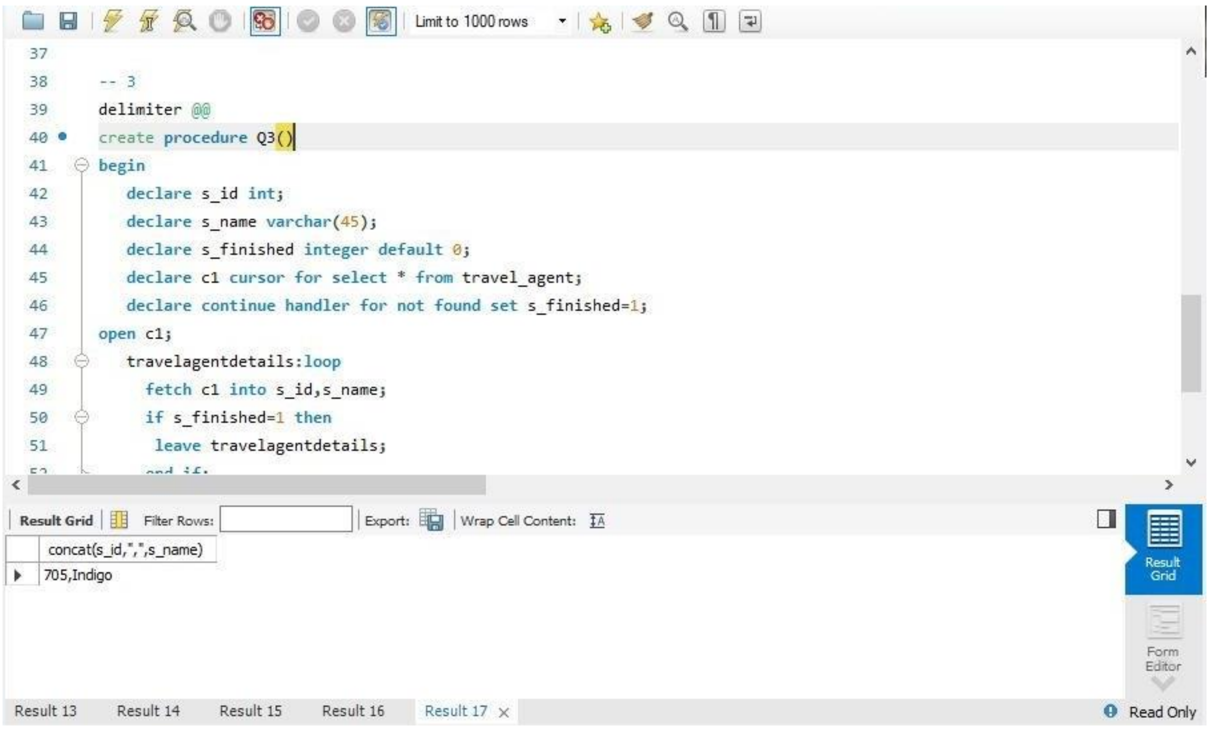


```sql
create procedure Q2()
begin
   declare s_id int;
   declare s_name varchar(45);
   declare s_addr varchar(45);
   declare s_mobile mediumtext;
   declare s_finished integer default 0;
   declare c1 cursor for select * from customer;
   declare continue handler for not found set s_finished=1;
open c1;
   customerdetails:loop
     fetch c1 into s_id,s_name,s_addr,s_mobile;
     if s_finished=1 then
      leave customerdetails;
     end if;
     select concat(s_id,",",s_name,",",s_addr,",",s_mobile);
    end loop customerdetails;
close c1;
end @@
delimiter ;

call Q2();
```

```
concat(s_id,",",s_name,",",s_addr,",",s_mobile)
307,Kiran,Guntur,7322938936
```

3) Create a cursor to display the details of the travel agents where the tourists booked their tours

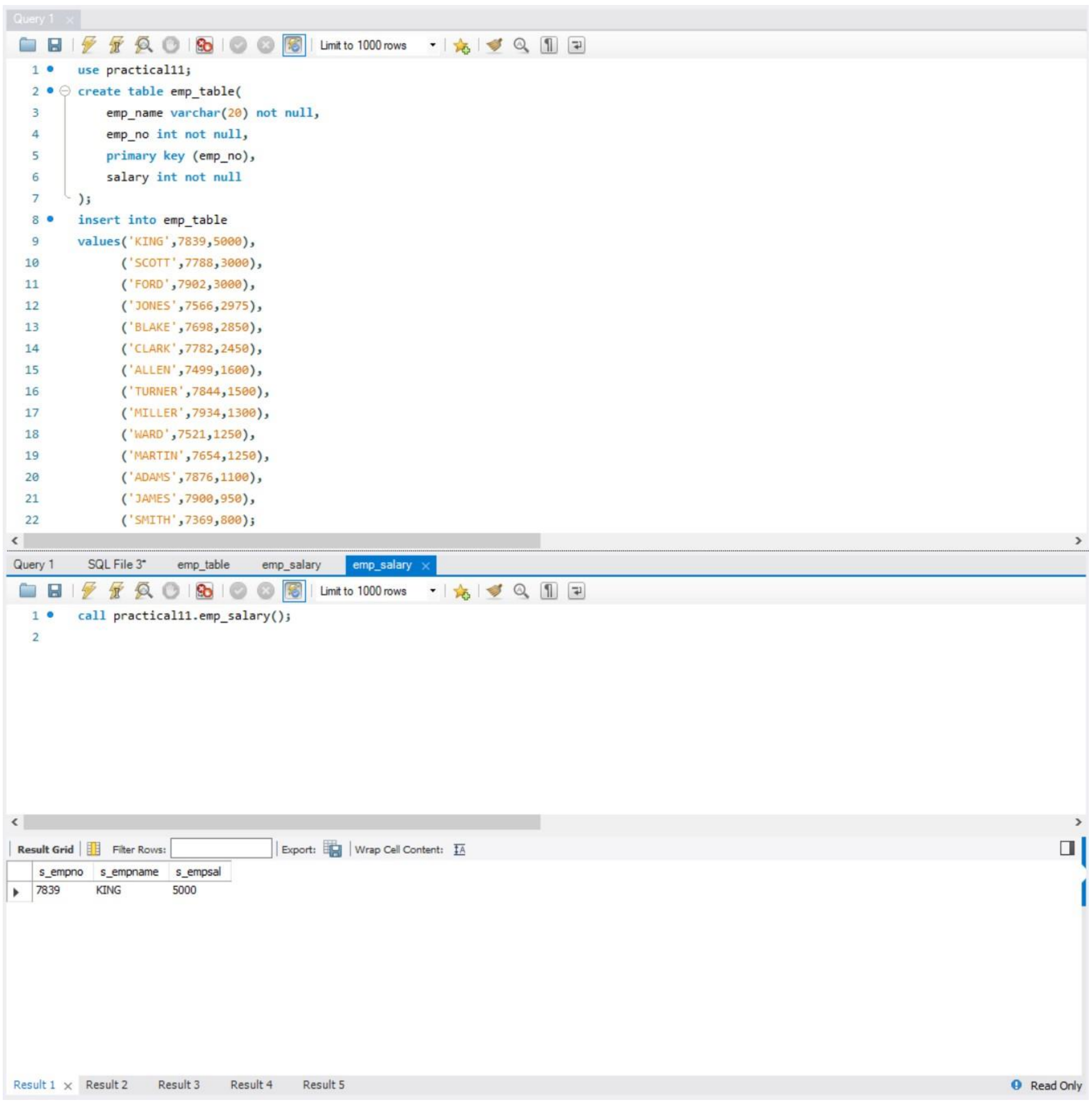


```
-- 3
delimiter @@
create procedure Q3()
begin
   declare s_id int;
   declare s_name varchar(45);
   declare s_finished integer default 0;
   declare c1 cursor for select * from travel_agent;
   declare continue handler for not found set s_finished=1;
open c1;
   travelagentdetails:loop
     fetch c1 into s_id,s_name;
     if s_finished=1 then
      leave travelagentdetails;
```

```
concat(s_id,",",s_name)
705,Indigo
```

POSTLAB

1) Write a PL/SQL PROGRAM to select the five highest paid employees from the emp table using CURSORS.



```
use practical11;
create table emp_table(
    emp_name varchar(20) not null,
    emp_no int not null,
    primary key (emp_no),
    salary int not null
);
insert into emp_table
values('KING',7839,5000),
      ('SCOTT',7788,3000),
      ('FORD',7902,3000),
      ('JONES',7566,2975),
      ('BLAKE',7698,2850),
      ('CLARK',7782,2450),
      ('ALLEN',7499,1600),
      ('TURNER',7844,1500),
      ('MILLER',7934,1300),
      ('WARD',7521,1250),
      ('MARTIN',7654,1250),
      ('ADAMS',7876,1100),
      ('JAMES',7900,950),
      ('SMITH',7369,800);
```

```
call practical11.emp_salary();
```

s_empno	s_empname	s_empsal
7839	KING	5000

2) Write a PL/SQL Program to check for an Armstrong Number

```
declare
        n number:=1634;
        s number:=0;
        r number;
        len number;
        m number;

begin
```

```
        m := n;

        len := length(to_char(n));

        while n>0
        loop
                r := mod(n , 10);
                s := s + power(r , len);
                n := trunc(n / 10);
        end loop;

        if m = s
        then
                dbms_output.put_line('yes');
        else
                dbms_output.put_line('no');
        end if;

end;
```

3) Write a PL/SQL program to check whether a given character is letter or digit.

```
DECLARE
   get_ctr CHAR(1) := '&input_a_character';
BEGIN
   IF ( get_ctr >= 'A'
        AND get_ctr <= 'Z' )
       OR ( get_ctr >= 'a'
            AND get_ctr <= 'z' ) THEN
     dbms_output.Put_line ('The given character is a letter');     ELSE
     dbms_output.Put_line ('The given character is not a letter');

     IF get_ctr BETWEEN '0' AND '9' THEN
       dbms_output.Put_line ('The given character is a number');       ELSE
       dbms_output.Put_line ('The given character is not a number');
     END IF;
   END IF;
END;
```

```
Output: A
                The given Character is a letter.
```