AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

where leaders are created

Project Name: Hospital Management System
Course Name: Advance Database Management System
Section: B

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Contents

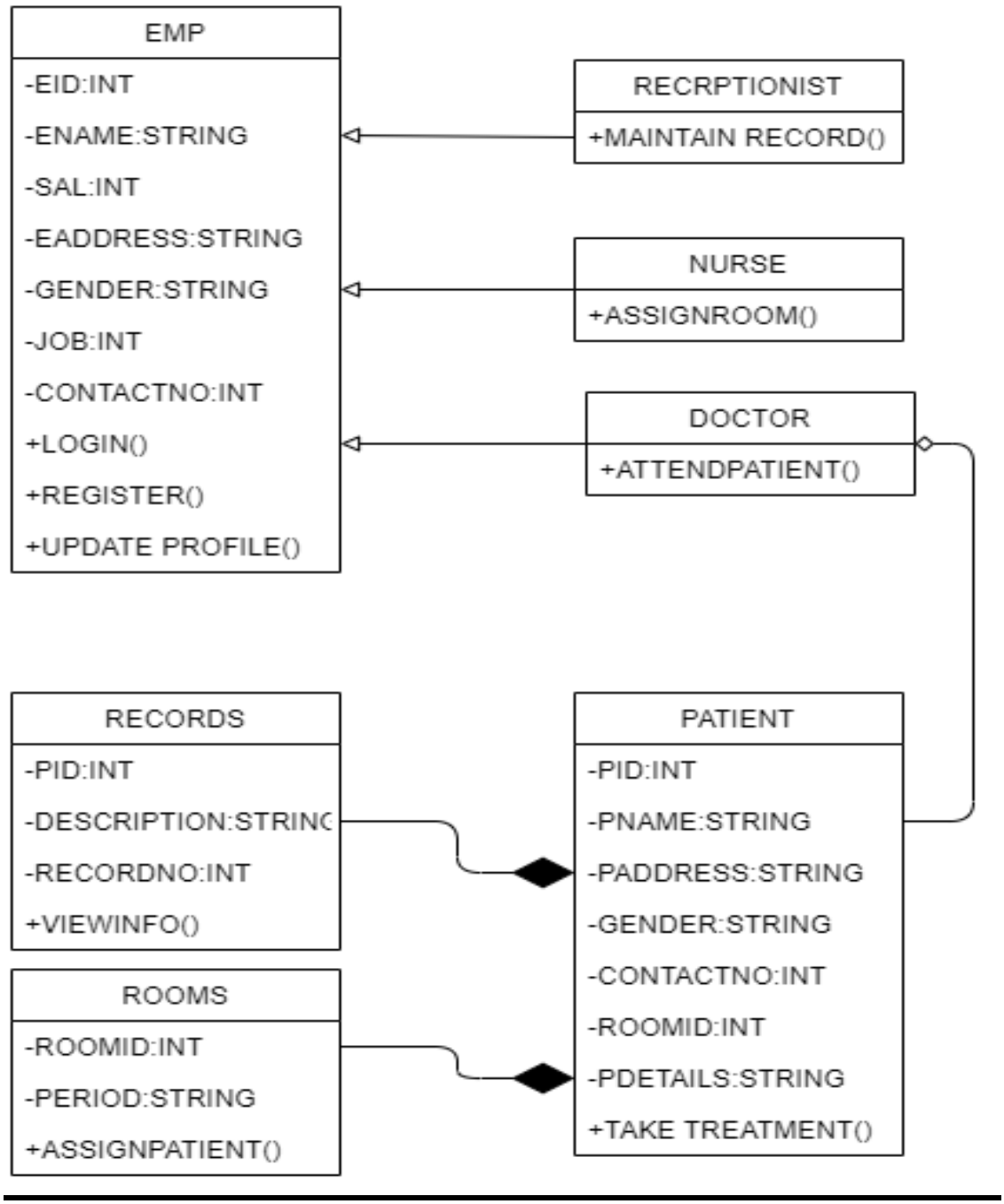
1.Introduction:

Our project Hospital Management System shows all the visual instrument of database tables and the relations between Patient, employees, Rooms, Records etc. It used structure data and to define the relationships between structured data groups of Hospital Management System functionalities.

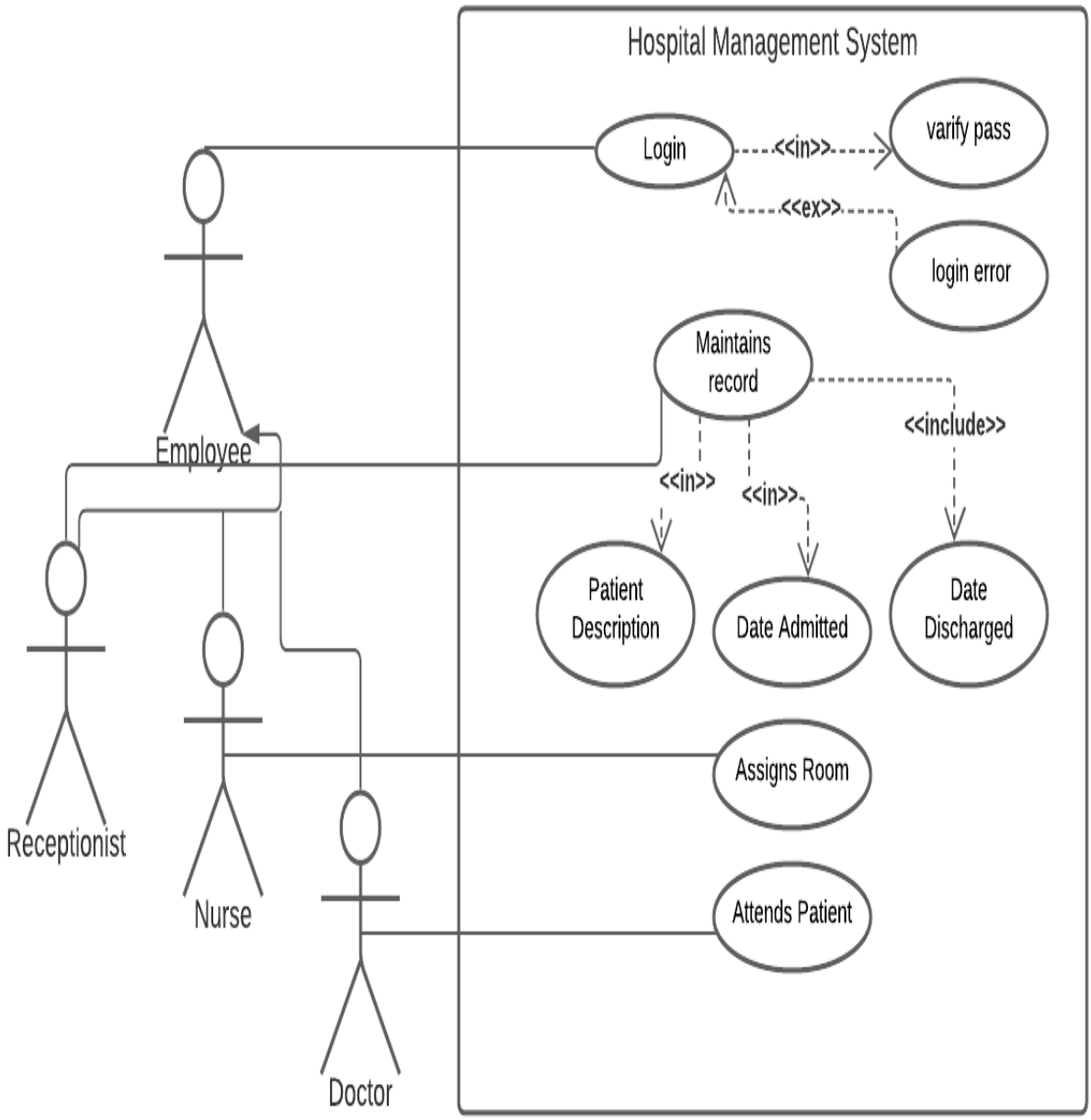
2.Project Proposal:

Our project Hospital Management System includes admission of patients, storing their details into the system. It It has the facility to give a unique id for every patient and stores the details of every patient and the employee automatically. It includes a search facility to know the current status of each room. We can search availability of a employee and the details of a patient using the id. It is accessible by receptionist. Only they can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast.

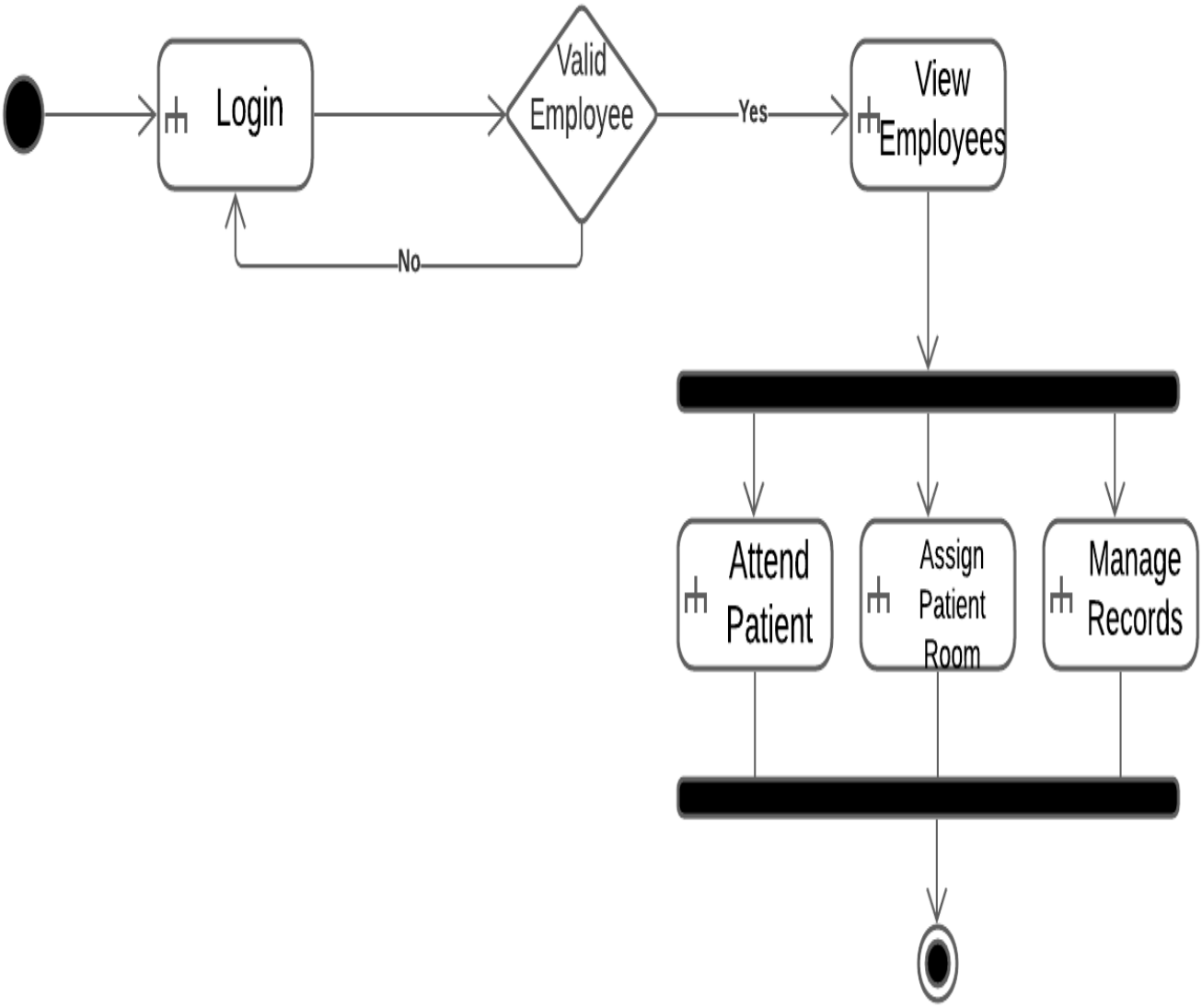
3.Class Diagram



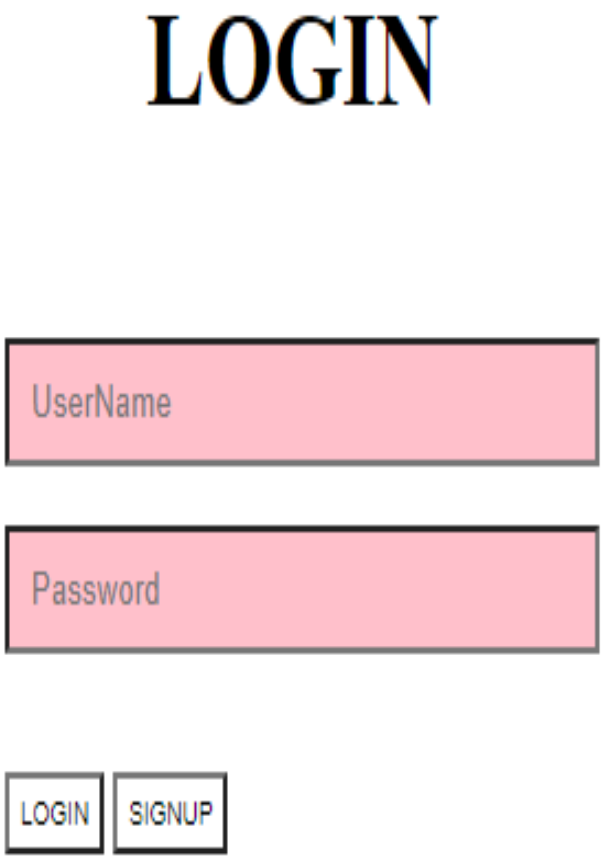
4.Use case Diagram



5.Activity Diagram



6.User Interface



User Interface

Back

Registration

Name

Username

Email

Password

Confirm Password

User type:

- Customer
- Seller

Submit

User Interface

Logout

User Interface

PATIENTS DETAILS

ID	NAME	CONTACT NO.	ADDRESS	DATE OF ADMIT	DATE OF DISCHARGE
1					
2					
3					
4					
5					

User Interface

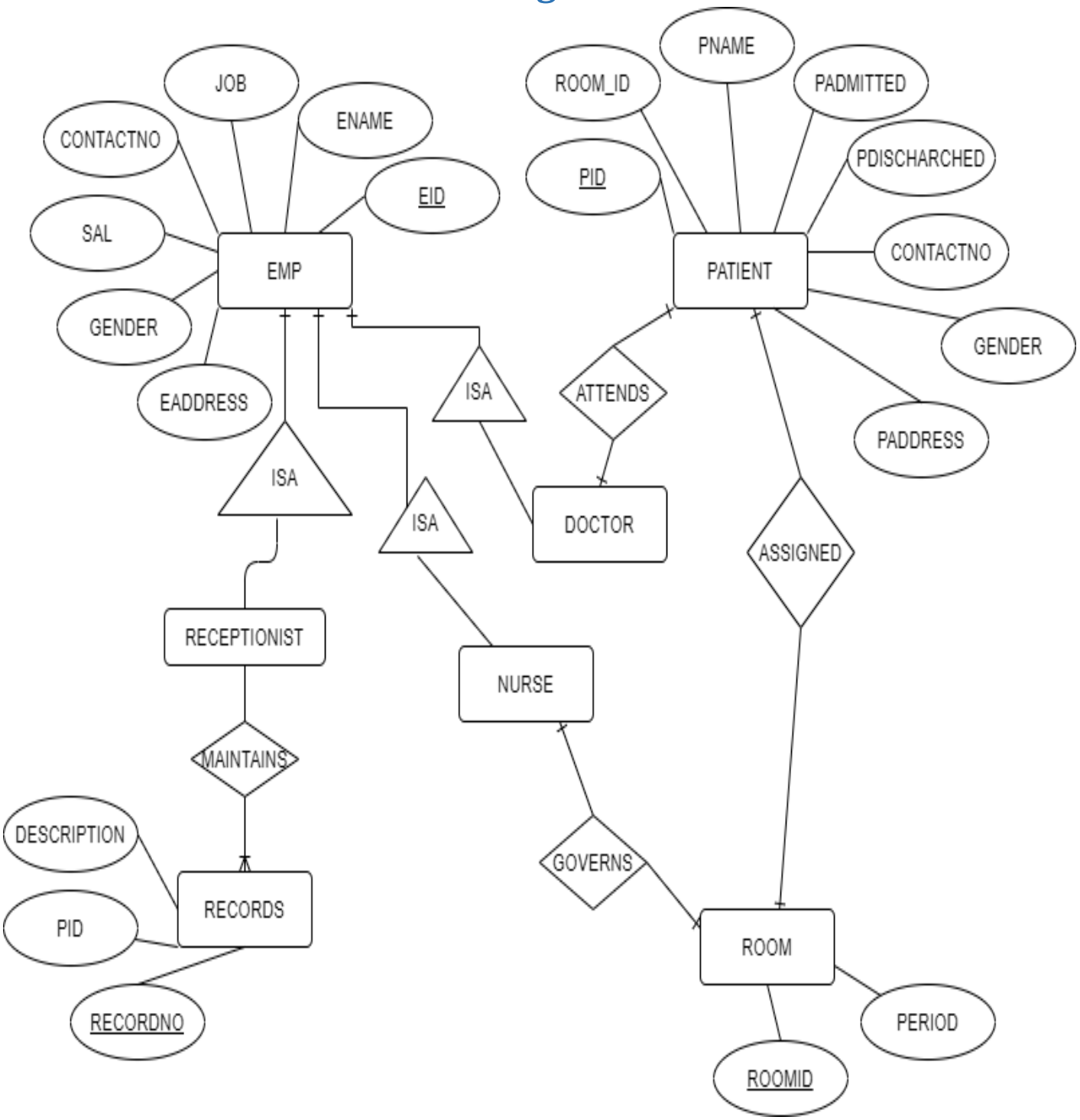
EMPLOYEES DETAILS

ID	NAME	CONTACT NO.	ADDRESS	SALARY	NID NO.
1					
2					
3					
4					
5					

7.Scenario Description:

In this diagram, there is Employee entity which has three categories like Doctor , Nurse and Receptionist. Employee entity has unique employee ID, name, salary, address, gender,NID and contact no. We can store details of every employee who are working in this hospital and search their details with their unique id automatically. Here, Doctor can attend patient. Patient entity has different attributes like patient name, unique ID, room ID, contact no ,address, gender, patient details, admission date and discharged date. It will be easy to find patient details with their unique ID where every details of patient is stored. Patient can be assigned Room. Room enity has a unique Room ID and period attribute. So we know the details that which patient will be assigned in which room and duration. Room is being governed by Nurse. Receptionist maintains record of patient. Record entity has three attributes like unique patient ID, description and Record no. So we will know the details of every patient with their record number whenever it is needed.

8.ER Diagram


JOB
CONTACTNO
ENAME
EID
SAL
EMP
GENDER
EADDRESS
ISA
ISA
ISA
RECEPTIONIST
NURSE
DOCTOR
MAINTAINS
DESCRIPTION
PID
RECORDS
RECORDNO
GOVERNS
ROOM
PERIOD
ROOMID
ROOM_ID
PNAME
PADMITTED
PDISCHARCHED
PID
PATIENT
CONTACTNO
GENDER
PADDRESS
ATTENDS
ASSIGNED

9.Normalization

Bill (code, price, quantity, PID, name, gender, address, date admitted, date discharged, contact no)
1NF: contact no
2NF: code, price, quantity
PID, name, gender, address, date admitted, date discharged, contact no
3NF: code, price, quantity
PID, name, gender, address, P_details, contact no
P_details, date admitted, date discharged

Assigned (PID, name, gender, address, date admitted, date discharged, contact no, Room_ID, period)
1NF: contact no
2NF: PID, name, gender, address, date admitted, date discharged, contact no
Room_ID, period
3NF: PID, name, gender, address, P_details, contact no
Room_ID , period
P_details, date admitted, date discharged

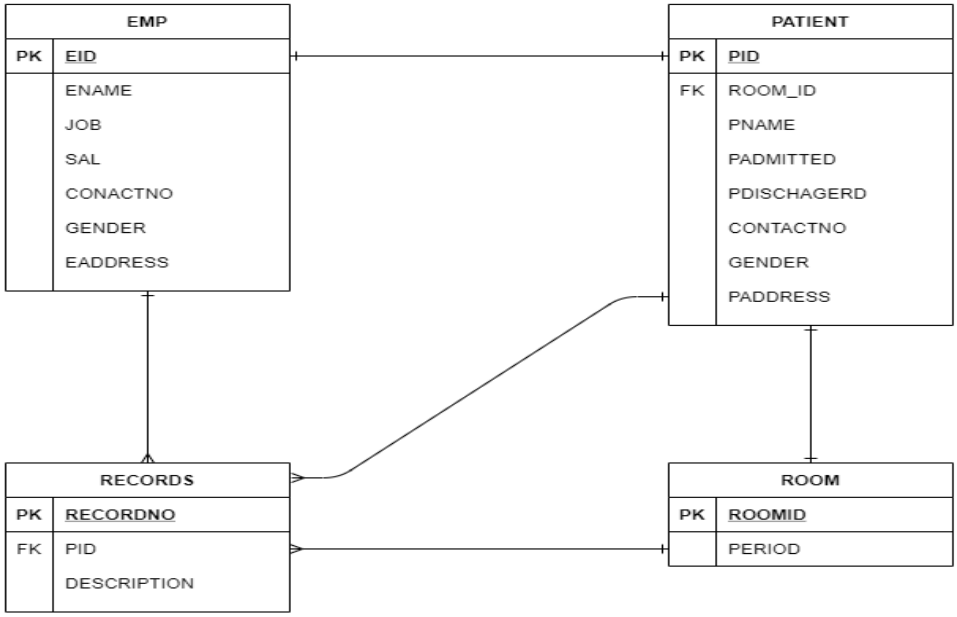
Governs (Room_ID, period)
1NF:
2NF: Room_ID, period
3NF: Room_ID, period
Total Table:

1. code, price, quantity
2. PID, name, gender, address, P_details, contact no
3. P_details, date admitted, date discharged
4. PID, name, gender, address, P_details, contact no
5. Room_ID , period
6. P_details,, date admitted, date discharged
7. Room_ID, period

Final Table:

1. code, price, quantity
2. PID, name, gender, address, P_details, contact no
3. P_details, date admitted, date discharged
4. Room_ID, period

10.Schema Diagram



11.Table Creation

- CREATE TABLE EMP

```
(EID INT NOT NULL PRIMARY KEY,
  ENAME VARCHAR2(10),
  JOB VARCHAR2(9),
  SAL NUMBER(7),
 CONTACTNO NUMBER(11),
 GENDER VARCHAR2(8),
 EADDRESS VARCHAR2(50))
```

- CREATE TABLE ROOMS

```
(ROOMID INT NOT NULL PRIMARY KEY,
  PERIOD_DAYS NUMBER(4))
```

- CREATE TABLE PATIENT

```
(PID INT NOT NULL PRIMARY KEY,
  PNAME VARCHAR2(10),
  PADMITTED DATE,
  PDISCHARGED DATE,
 CONTACTNO NUMBER(11),
 GENDER VARCHAR2(8),
 PADDRESS VARCHAR2(50),
 ROOM_ID INT references ROOMS (ROOMID))
```

- CREATE TABLE RECORDS

```
(RECORDNO INT NOT NULL PRIMARY KEY,
  DESCRIPTION VARCHAR2(80),
 PID INT references PATIENT (PID))
```

12.Data Insertion

```
INSERT INTO EMP VALUES
(1001,'ALEX','DOCTOR',7000,001100110,'MALE','BOSTON')

INSERT INTO EMP VALUES
(1002,'AVA','DOCTOR',7500,000000110,'FEMALE','DETROIT')

INSERT INTO EMP VALUES
(1003,'DREW','DOCTOR',7800,011000110,'MALE','DETROIT')

INSERT INTO EMP VALUES
(1004,'RYAN','DOCTOR',68000,010000110,'MALE','BOSTON')

INSERT INTO EMP VALUES
(1005,'AVERY','DOCTOR',7000,000000111,'FEMALE','TEXAS')

INSERT INTO EMP VALUES
(1006,'LOGAN','DOCTOR',7200,000110000,'MALE','FLORIDA')

INSERT INTO EMP VALUES
(1007,'EMERSON','DOCTOR',8000,100110000,'FEMALE','NEW-
YORK')

INSERT INTO EMP VALUES
(1008,'BROOKLYN','DOCTOR',9000,000110010,'FEMALE','NEW-
YORK')

INSERT INTO EMP VALUES
(1009,'TONY','DOCTOR',9500,010110000,'MALE','CALIFORNIA')



INSERT INTO EMP VALUES
```

(1010,'PERKER','DOCTOR',9000,010110100,'MALE','NEW-YORK')

INSERT INTO EMP VALUES
(1011,'AUSTIN','NURSE',5500,010100100,'MALE','NEW-YORK')

INSERT INTO EMP VALUES
(1012,'ERZA','NURSE',5400,010100100,'FEMALE','BOSTON')

INSERT INTO EMP VALUES
(1013,'ADAM','NURSE',5400,010111100,'MALE','TEXAS')

INSERT INTO EMP VALUES
(1014,'PENNEY','NURSE',5500,110111101,'FEMALE','TEXAS')

INSERT INTO EMP VALUES
(1015,'AMY','RECEPTION',4800,110111101,'FEMALE','NEW-YORK')

INSERT INTO EMP VALUES
(1016,'KALEY','NURSE',5200,110000001,'FEMALE','TEXAS')

INSERT INTO EMP VALUES
(1017,'BARNI','RECEPTION',5200,110010001,'FEMALE','TEXAS')

INSERT INTO ROOMS VALUES
(101,5)

INSERT INTO ROOMS VALUES
(102,9)

INSERT INTO ROOMS VALUES
(103,5)

INSERT INTO ROOMS VALUES
(104,15)

```
INSERT INTO ROOMS VALUES
(105,3)

INSERT INTO ROOMS VALUES
(106,9)

INSERT INTO ROOMS VALUES
(107,12)
```

```
INSERT INTO PATIENT VALUES
(8001,'ADAM',to_date('17-12-2020','dd-mm-yyyy'),to_date('17-01-
2021','dd-mm-yyyy'),80080074570,'MALE','KURIL',101);

INSERT INTO PATIENT VALUES
(8002,'MIA',to_date('15-1-2021','dd-mm-yyyy'),to_date('04-02-2021','dd-
mm-yyyy'),80008970070,'FEMALE','UTTARA',103);

INSERT INTO PATIENT VALUES
(8003,'CARTER',to_date('20-01-2021','dd-mm-yyyy'),to_date('04-02-
2021','dd-mm-yyyy'),80088970070,'MALE','DHANMONDI',102);

INSERT INTO PATIENT VALUES
(8004,'BLAKE',to_date('30-03-2021','dd-mm-yyyy'),to_date('07-04-
2021','dd-mm-yyyy'),8076070070,'MALE','MIRPUR',101);

INSERT INTO PATIENT VALUES
(8005,'BRENT',to_date('03-02-2021','dd-mm-yyyy'),to_date('27-02-
2021','dd-mm-yyyy'),80080897000,'MALE','NORDA',104);


INSERT INTO PATIENT VALUES
(8006,'ROSE',to_date('09-03-2021','dd-mm-yyyy'),to_date('27-03-
2021','dd-mm-yyyy'),80080897001,'FEMALE','FARMGATE',105);
```

```
INSERT INTO PATIENT VALUES
(8007,'RICK',to_date('20-03-2021','dd-mm-yyyy'),to_date('27-03-
2021','dd-mm-yyyy'),80080897078,'MALE','FARMGATE',103);
```

```
INSERT INTO RECORDS VALUES
(101,'Acute upper respiratory infections ',8001)

INSERT INTO RECORDS VALUES
(102,'Diabetes Mellitus',8002)

INSERT INTO RECORDS VALUES
(103,'Dislocated bone',8003)

INSERT INTO RECORDS VALUES
(104,'Acute upper respiratory infections',8004)

INSERT INTO RECORDS VALUES
(105,'Osteoarthritis',8005)

INSERT INTO RECORDS VALUES
(106,'Infectious diseases',8006)

INSERT INTO RECORDS VALUES
(107,'Fever',8006)

INSERT INTO RECORDS VALUES
(108,'Broken Bone',8005)
```

13.Query Writing

(i)SINGLE ROW FUNCTION

SELECT CONCAT(ENAME,SAL) FROM EMP;

SELECT ENAME,LENGTH(ENAME)FROM EMP;

SELECT ENAME,INSTR(ENAME,'A')FROM EMP;

(ii)GROUP FUNCTION

SELECT SUM(SAL) TOTAL_SAL FROM EMP;

SELECT COUNT(EID), EADDRESS FROM EMP GROUP BY EADDRESS ORDER BY COUNT(EID) DESC;

SELECT MAX (PADMITTED) LATEST FROM PATIENT;

(iii)SUB QUERY

SELECT * FROM PATIENT WHERE ROOM_ID= '103'

SELECT * FROM EMP WHERE EID IN (SELECT EID FROM EMP WHERE SAL > 7500);

SELECT * FROM PATIENT WHERE PADDRESS (SELECT PADDRESS FROM PATIENT WHERE PADDRESS='MIRPUR');

(iv)JOINING

```
SELECT PNAME, CONTACTNO, PADMITTED FROM PATIENT, ROOMS WHERE  PATIENT.ROOM_ID = ROOMS.ROOMID;

SELECT PNAME,CONTACTNO FROM PATIENT INNER JOIN RECORDSON PATIENT.PID = RECORDS.PID;

SELECT PID, DESCRIPTOIN, RECORDNO
  FROM PATIENT O RIGHT JOIN RECORDS C
    ON O.PID = C.PID
WHERE PID>8001
```

(v)VIEW

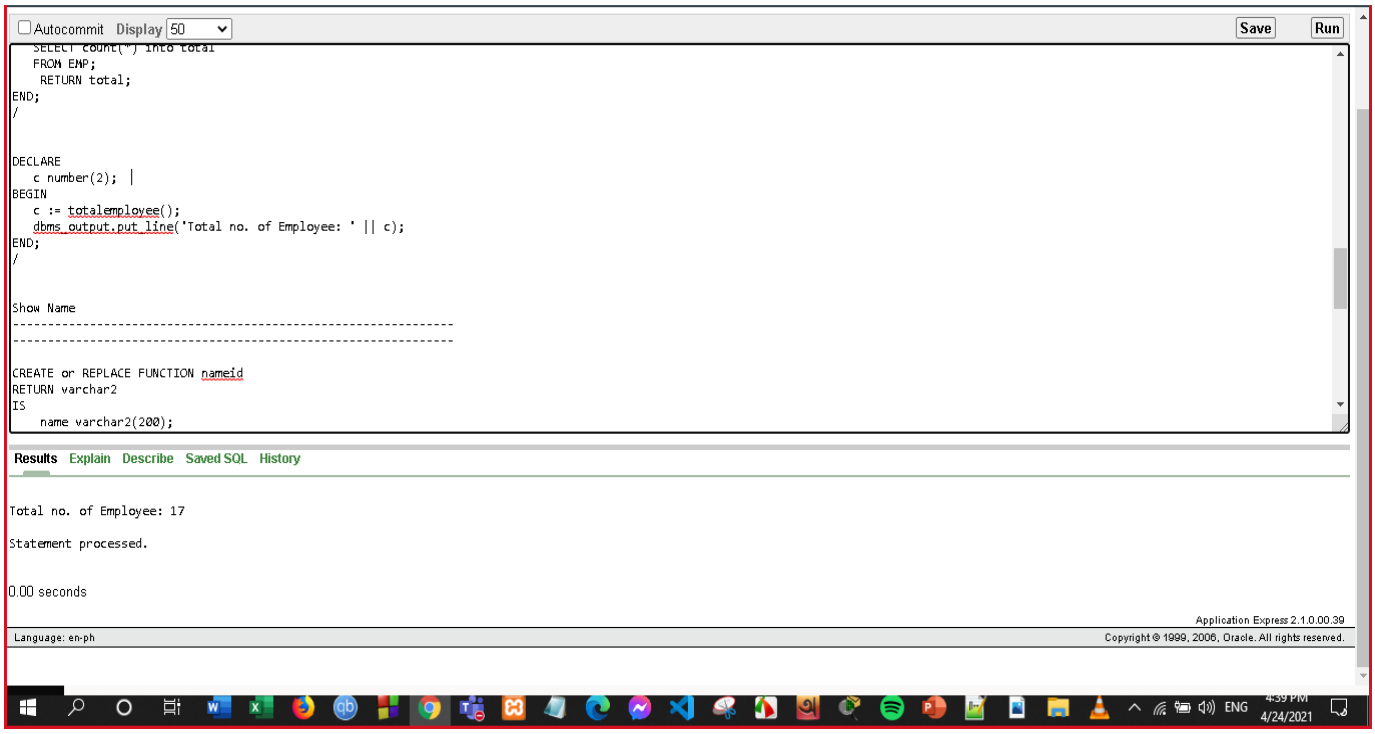
```
CREATE VIEW DETAILS AS SELECT ENAME, EADDRESS FROM EMP WHERE EID < 1008;
SELECT * FROM DETAILS

CREATE VIEW DETAILS_VIEW AS SELECT EID, ENAME, SAL FROM EMP ORDER BY SAL;
SELECT * FROM DETAILS_VIEW

CREATE VIEW PATIENT_DETAIL AS SELECT PATIENT.PNAME, RECORDS.DESCRIPTION FROM PATIENT, RECORDS WHERE PATIENT.PID = RECORDS.PID;
SELECT * FROM PATIENT_DETAIL
```

14.PL/SQL

(i)FUNCTION:

1. Find the total number of employee

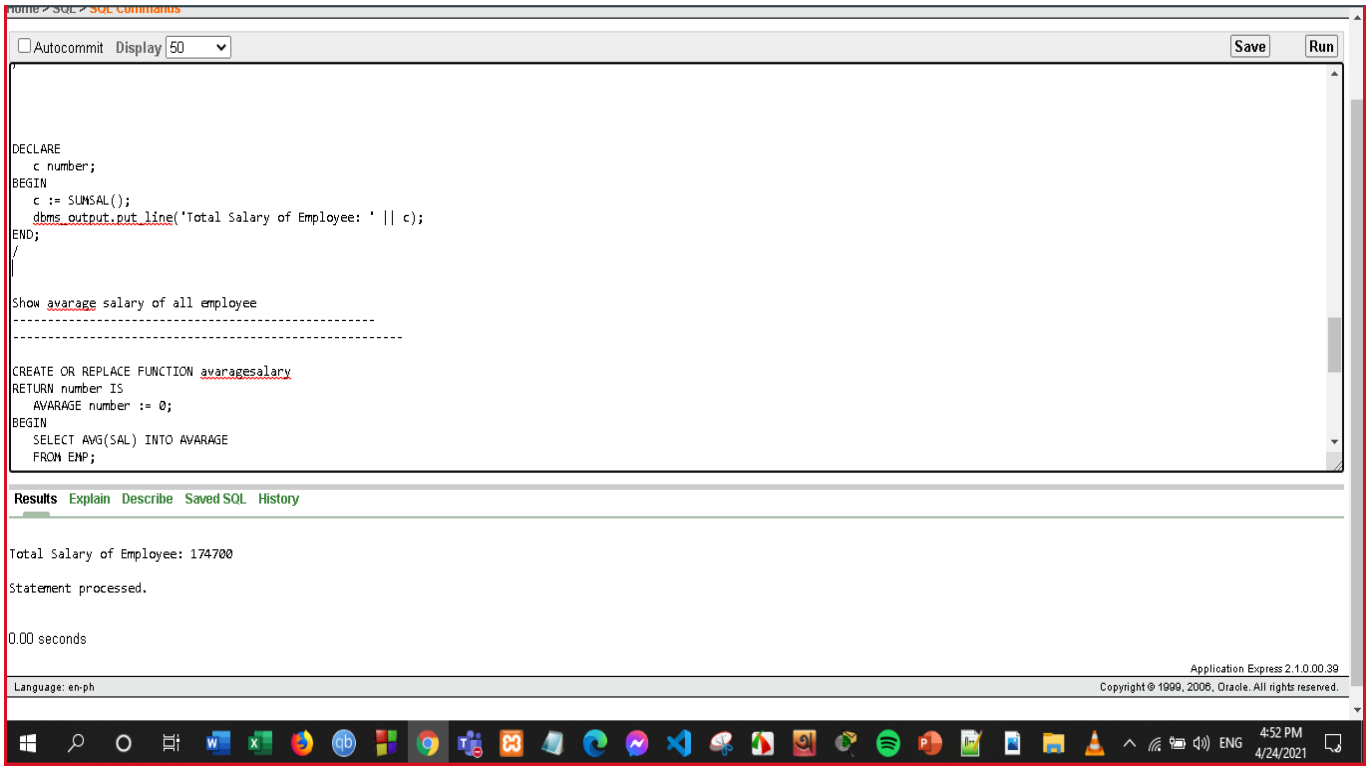
```
CREATE OR REPLACE FUNCTION totalemployee
RETURN number IS
   total number(2) := 0;
BEGIN
   SELECT count(*) into total
   FROM EMP;
    RETURN total;
END;
/

DECLARE
   c number(2);
BEGIN
   c := totalemployee();
   dbms_output.put_line('Total no. of Employee: ' || c);
END;
/
```



2 . Findout the total salary of employees.

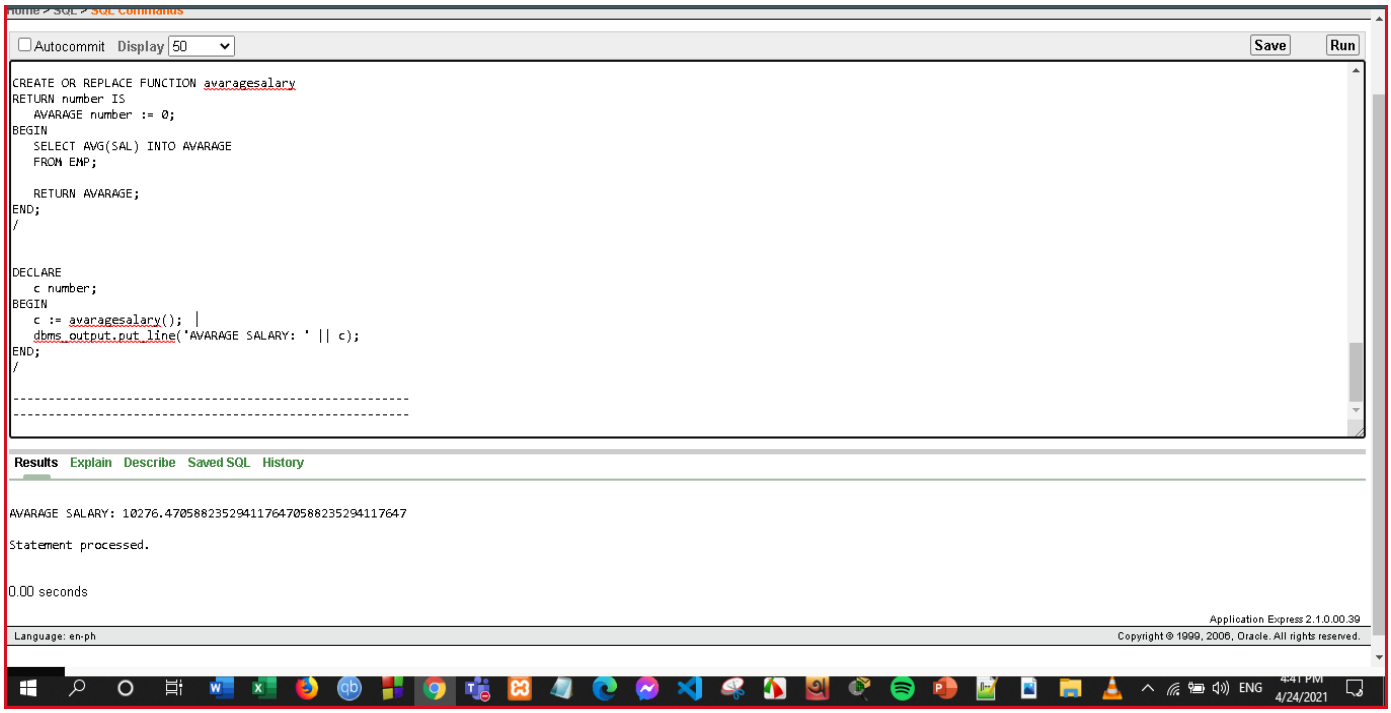
```
CREATE OR REPLACE FUNCTION sumsal
RETURN number IS
   total number := 0;
BEGIN
   SELECT SUM(SAL) into total
   FROM EMP;
    RETURN total;
END;
/
```

```
DECLARE
   c number;
BEGIN
   c := SUMSAL();
   dbms_output.put_line('Total Salary of Employee: ' || c);
END;
/
```



3. Show average salary of all employees.

```
 CREATE OR REPLACE FUNCTION avaragesalary
RETURN number IS
   AVARAGE number := 0;
BEGIN
   SELECT AVG(SAL) INTO AVARAGE
   FROM EMP;

   RETURN AVARAGE;
END;
/



DECLARE
   c number;
BEGIN
   c := avaragesalary();
   dbms_output.put_line('AVARAGE SALARY: ' || c);
END;
/
```

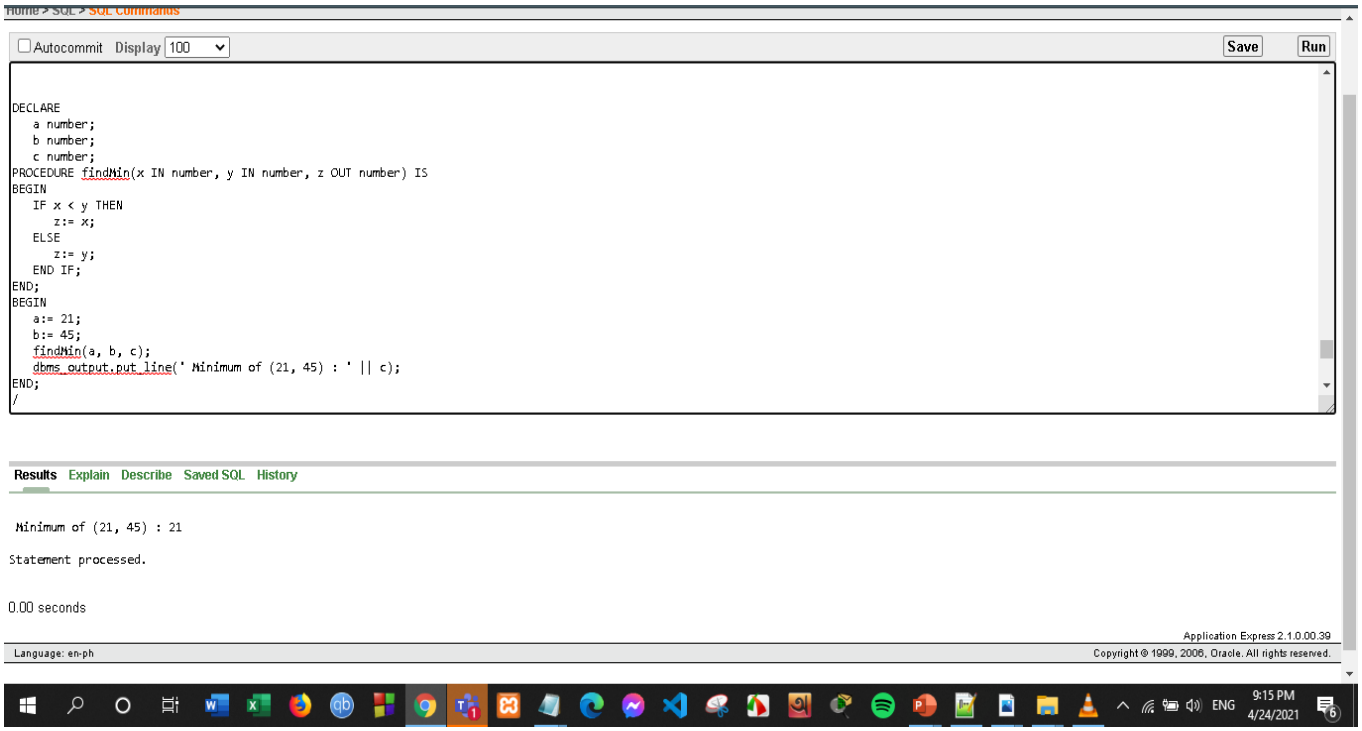


(ii)PROCEDURE:

1 . Findout the minimum number using procedure.

```
DECLARE
   a number;
   b number;
   c number;
PROCEDURE findMin(x IN number, y IN number, z OUT number) IS
BEGIN
   IF x < y THEN
      z:= x;
   ELSE
      z:= y;
   END IF;
```

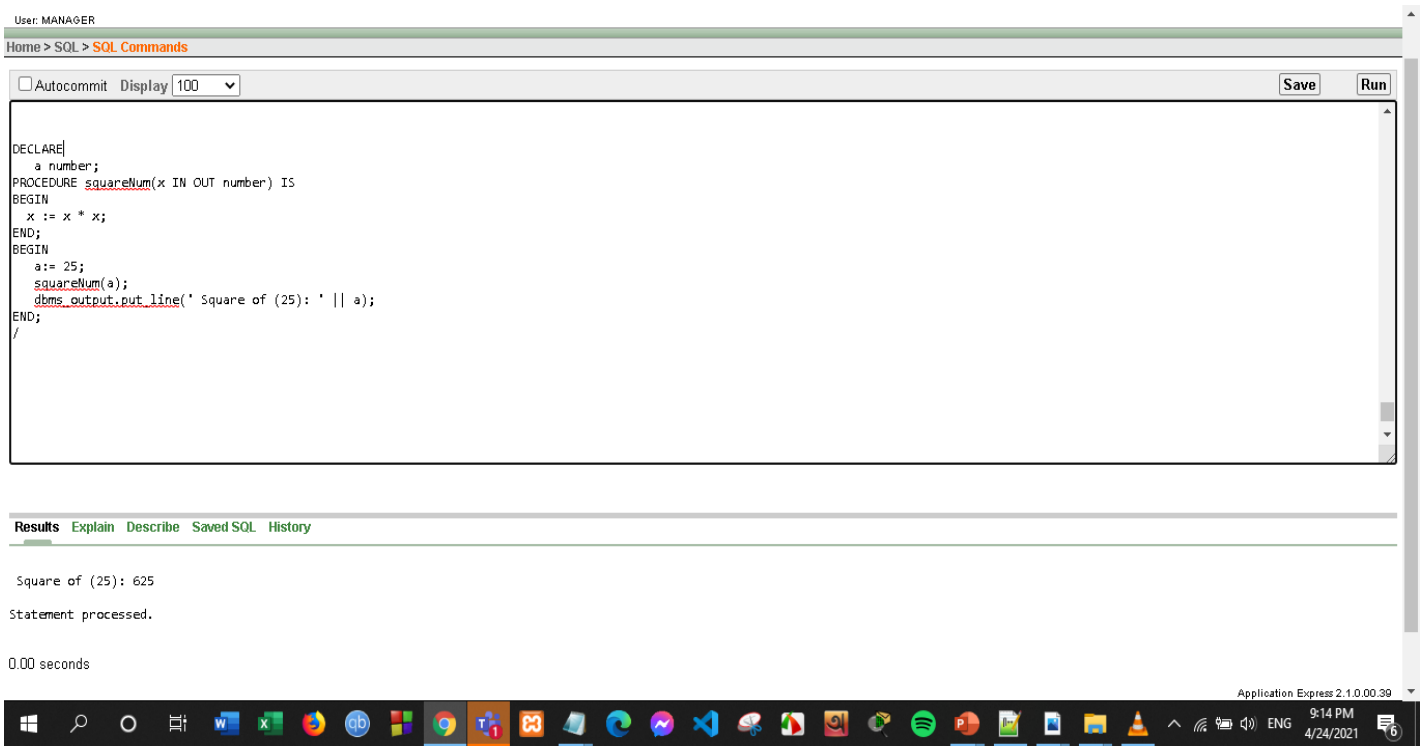
```
END;
BEGIN
   a:= 21;
   b:= 45;
   findMin(a, b, c);
   dbms_output.put_line(' Minimum of (21, 45) : ' || c);
END;
/
```



2 . Findout the square of a number.

```
DECLARE
   a number;
PROCEDURE squareNum(x IN OUT number) IS
```

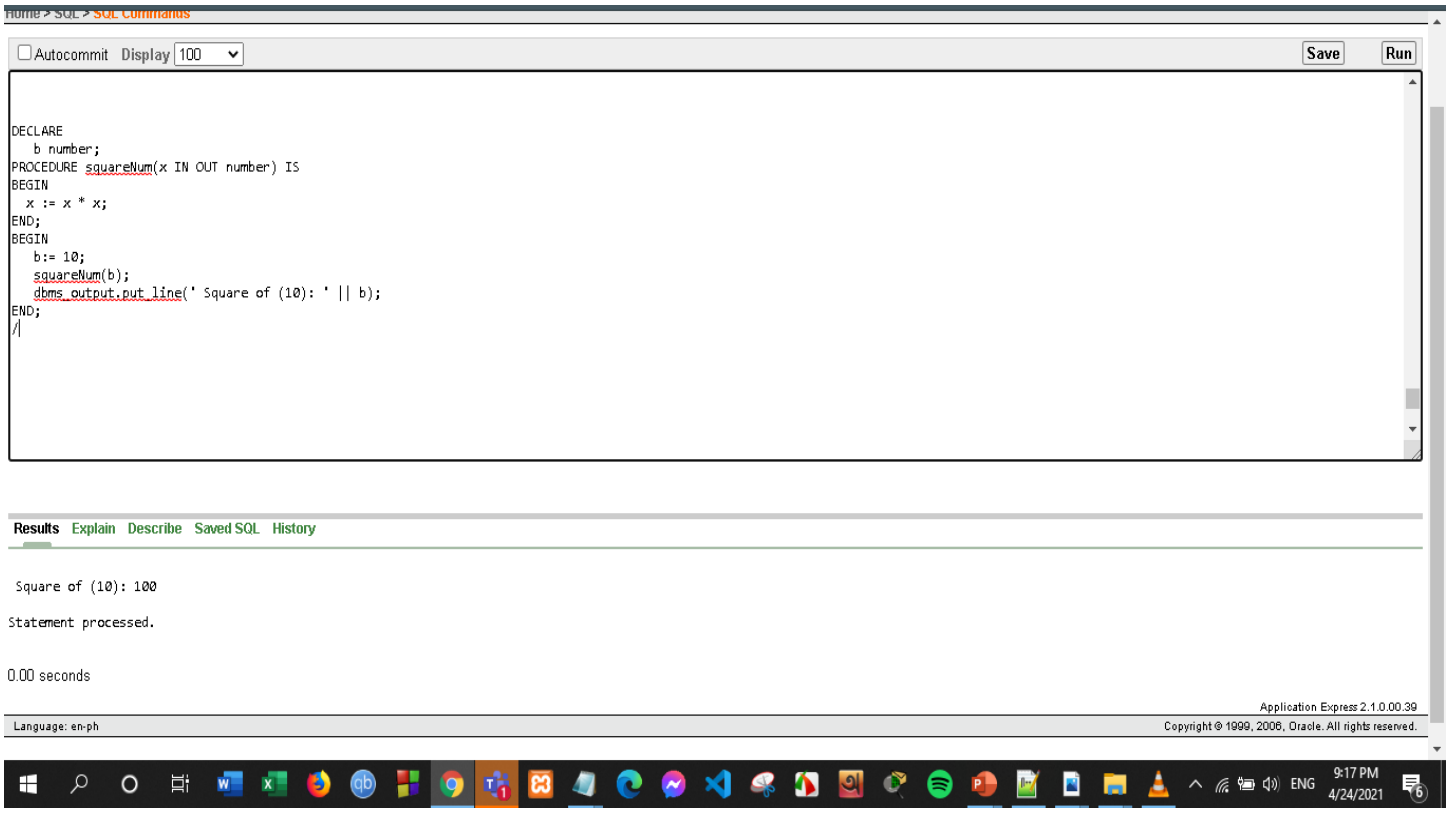
```
BEGIN
  x := x * x;
END;
BEGIN
   a:= 25;
   squareNum(a);
   dbms_output.put_line(' Square of (25): ' || a);
END;
/
```



3 . Findout the square of a number.

```
DECLARE
```

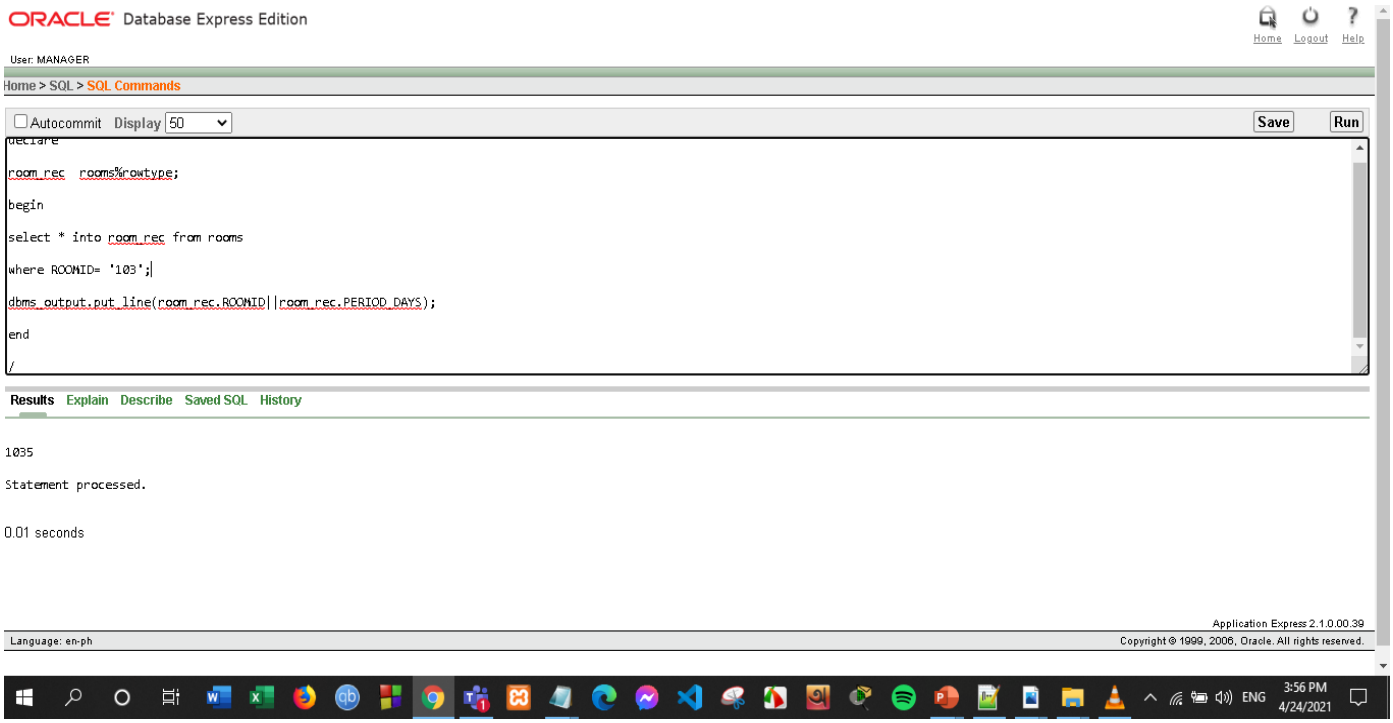
```
   b number;
PROCEDURE squareNum(x IN OUT number) IS
BEGIN
  x := x * x;
END;
BEGIN
   b:= 10;
   squareNum(b);
   dbms_output.put_line(' Square of (10): ' || b);
END;
/
```



(iii)RECORD

1 . Show roomid and period days using record.

```
declare

room_rec  rooms%rowtype;

begin

select * into room_rec from rooms

where ROOMID= '103';

dbms_output.put_line(room_rec.ROOMID ||' '||room_rec.PERIOD_DAYS);

end

/
```

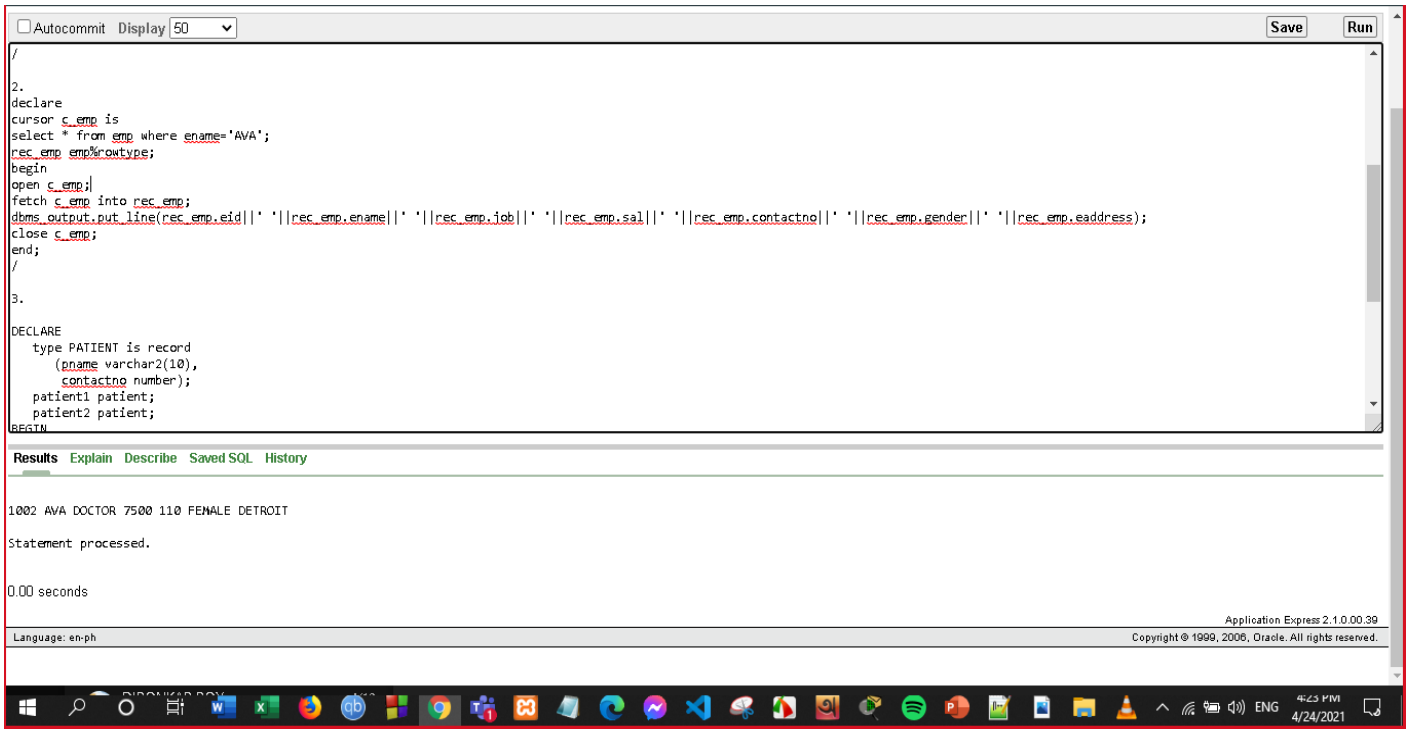


2 . Show the row from emp table where ename=’AVA’

```
declare
cursor c_emp is
select * from emp where ename='AVA';
rec_emp emp%rowtype;
begin
open c_emp;
fetch c_emp into rec_emp;
dbms_output.put_line(rec_emp.eid||' '||rec_emp.ename||' '||rec_emp.job||' '||rec_emp.sal||' '||rec_emp.contactno||' '||rec_emp.gender||' '||rec_emp.eaddress);
close c_emp;
```

end;

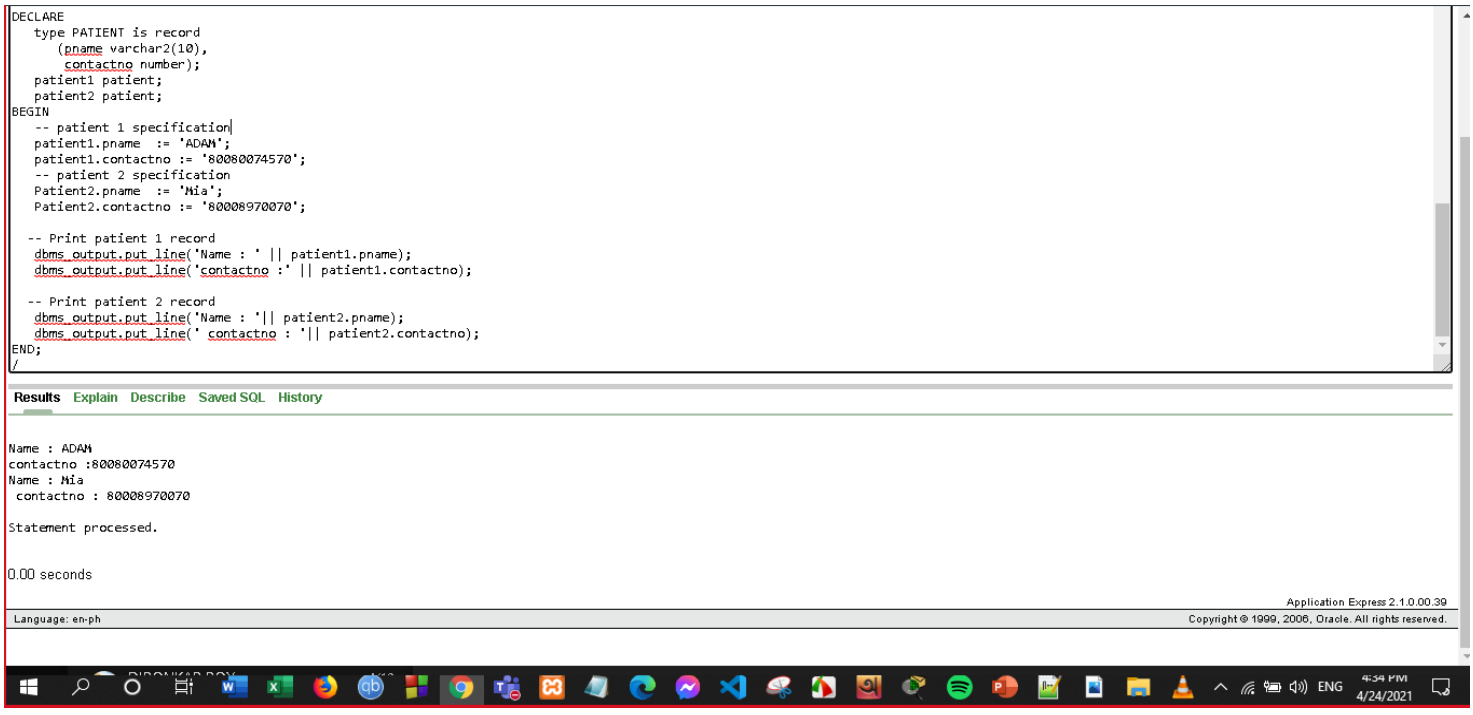
/



3 . Show pname and contactno from patient table.

```
DECLARE
   type PATIENT is record
      (pname varchar2(10),
       contactno number);
   patient1 patient;
   patient2 patient;
BEGIN
   -- patient 1 specification
   patient1.pname  := 'ADAM';
```

```
   patient1.contactno := '80080074570';
   -- patient 2 specification
   Patient2.pname  := 'Mia';
   Patient2.contactno := '80008970070';

  -- Print patient 1 record
   dbms_output.put_line('Name : ' || patient1.pname);
   dbms_output.put_line('contactno :' || patient1.contactno);

  -- Print patient 2 record
   dbms_output.put_line('Name : '|| patient2.pname);
   dbms_output.put_line(' contactno : '|| patient2.contactno);
END;
/
```

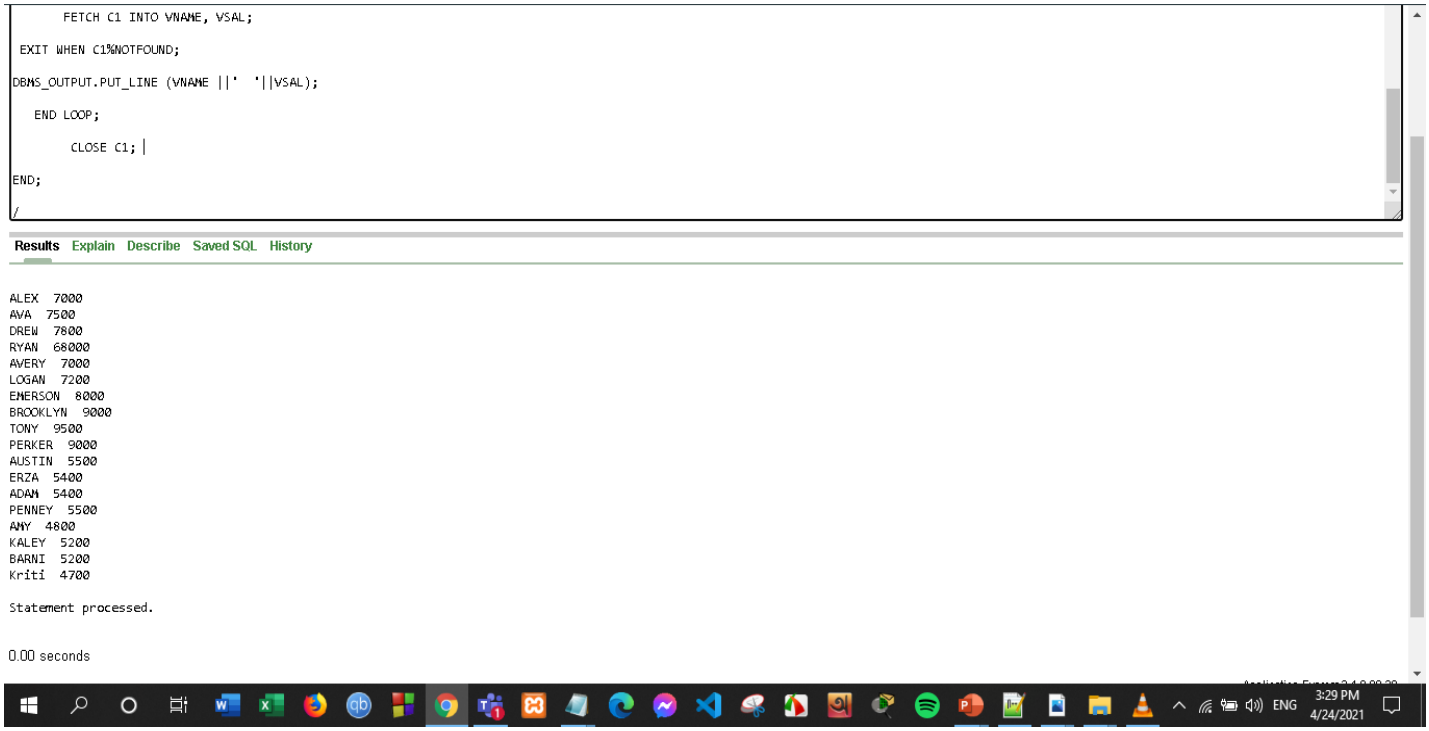


(iv)CURSOR

1 . Show ename and sal from emp table using cursor.

```
DECLARE

        CURSOR C1  IS  SELECT  ENAME , SAL  FROM EMP;

       VNAME EMP.ENAME%TYPE;

       VSAL EMP.SAL%TYPE;

BEGIN

   OPEN C1;

LOOP

     FETCH C1 INTO VNAME, VSAL;

 EXIT WHEN C1%NOTFOUND;

DBMS_OUTPUT.PUT_LINE (VNAME ||'  '||VSAL);

  END LOOP;
```

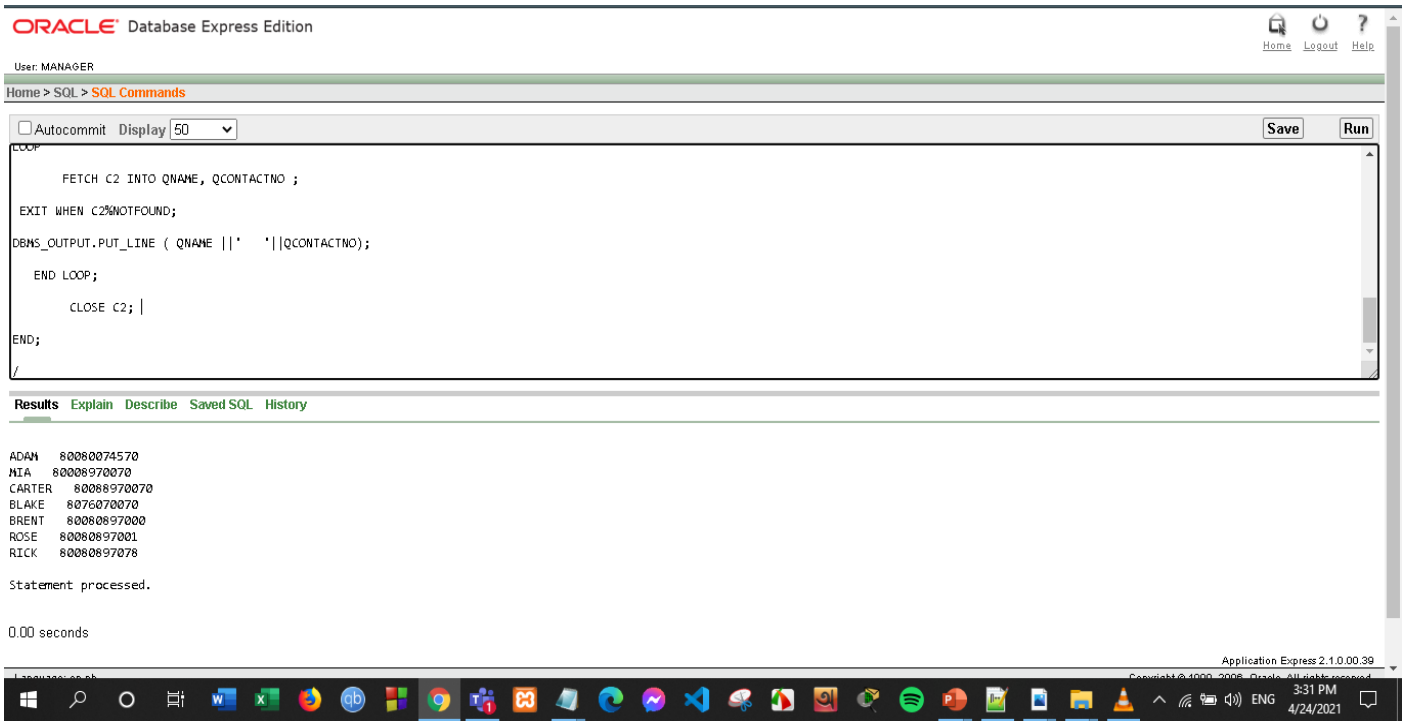
```
    CLOSE C1;

END;

/
```



2 . Show pname and contactno from patient table.

```
DECLARE

    CURSOR C2  IS  SELECT  PNAME , CONTACTNO  FROM PATIENT;

    QNAME PATIENT.PNAME%TYPE;
```

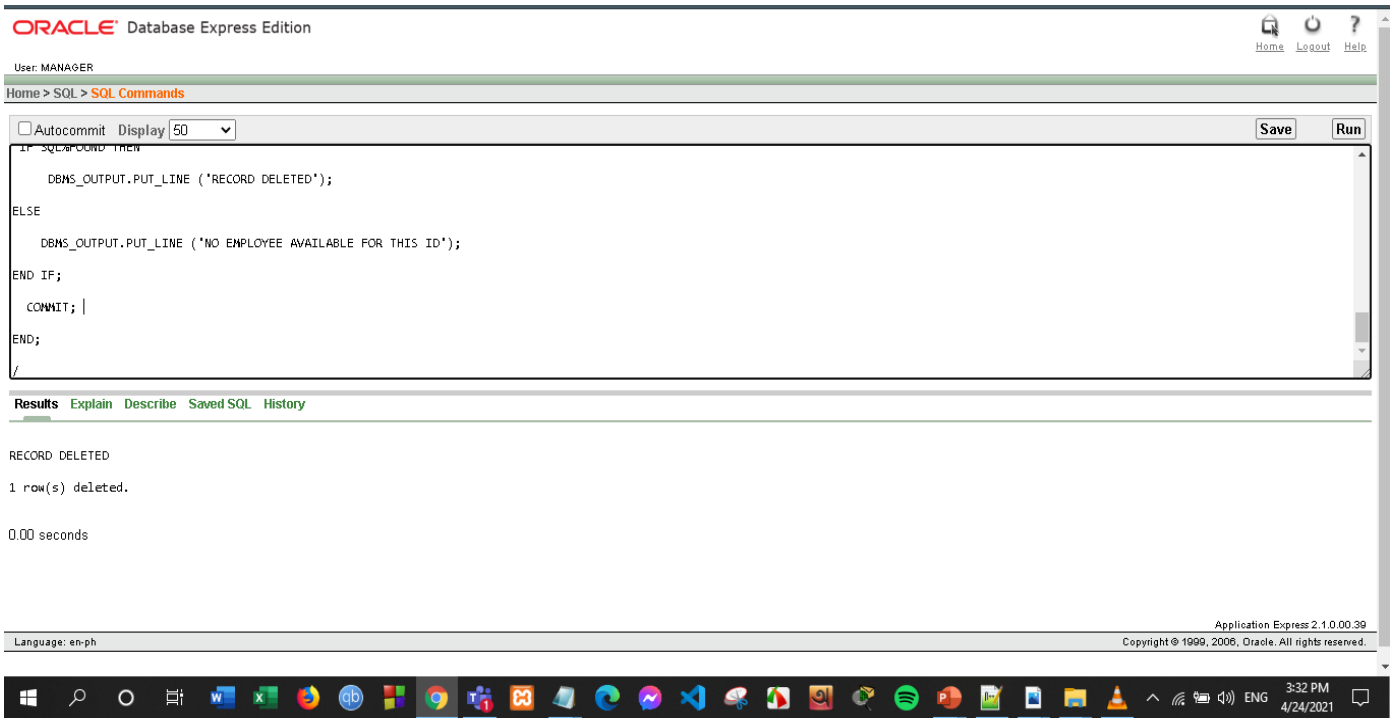
```
        QCONTACTNO PATIENT.CONTACTNO%TYPE;

BEGIN

    OPEN C2;

LOOP

     FETCH C2 INTO QNAME, QCONTACTNO ;

 EXIT WHEN C2%NOTFOUND;

DBMS_OUTPUT.PUT_LINE ( QNAME ||'   '||QCONTACTNO);

  END LOOP;

      CLOSE C2;

END;

/
```



3 . Delete using cursor.

```
DECLARE

    XYZ  EMP.EID%TYPE;

BEGIN

   XYZ := 1001;

  DELETE FROM EMP WHERE EID=XYZ;

 IF SQL%FOUND THEN
```

```
    DBMS_OUTPUT.PUT_LINE ('RECORD DELETED');

ELSE

    DBMS_OUTPUT.PUT_LINE ('NO EMPLOYEE AVAILABLE FOR THIS ID');

END IF;

  COMMIT;

END;

/
```



(v)TRIGGER

1 . Create and Fire trigger on emp table while Insert and update

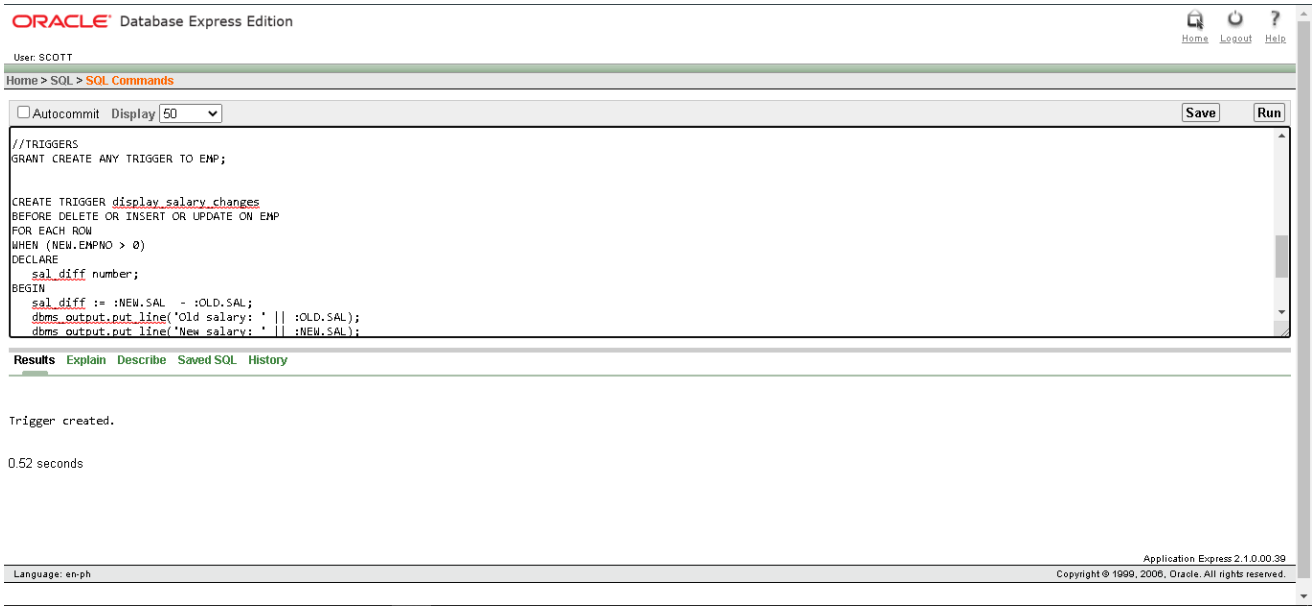
```
CREATE TRIGGER display_salary_changes
BEFORE DELETE OR INSERT OR UPDATE ON EMP
FOR EACH ROW
WHEN (NEW.EMPNO > 0)
DECLARE
  sal_diff number;
BEGIN
  sal_diff := :NEW.SAL  - :OLD.SAL;
  dbms_output.put_line('Old salary: ' || :OLD.SAL);
  dbms_output.put_line('New salary: ' || :NEW.SAL);
  dbms_output.put_line('Salary difference: ' || sal_diff);
END;
/
```

//INSERTING

```
INSERT INTO EMP VALUES (7950, 'Kriti', 'NURSE', 7700,'08/07/1982',1500, 600,
30 );
```

//UPDATING

```
UPDATE EMP
SET SAL = SAL + 500
WHERE EMPNO = 7950;
```


ORACLE Database Express Edition
Home Logout Help
User: SCOTT
Home > SQL > SQL Commands
Autocommit Display 50
Save Run
//TRIGGERS
GRANT CREATE ANY TRIGGER TO EMP;
CREATE TRIGGER display_salary_changes
BEFORE DELETE OR INSERT OR UPDATE ON EMP
FOR EACH ROW
WHEN (NEW.EMPNO > 0)
DECLARE
sal_diff number;
BEGIN
sal_diff := :NEW.SAL - :OLD.SAL;
dbms_output.put_line('Old salary: ' || :OLD.SAL);
dbms_output.put_line('New salary: ' || :NEW.SAL);
Results Explain Describe Saved SQL History
Trigger created.
0.52 seconds
Application Express 2.1.0.00.39
Language: en-ph
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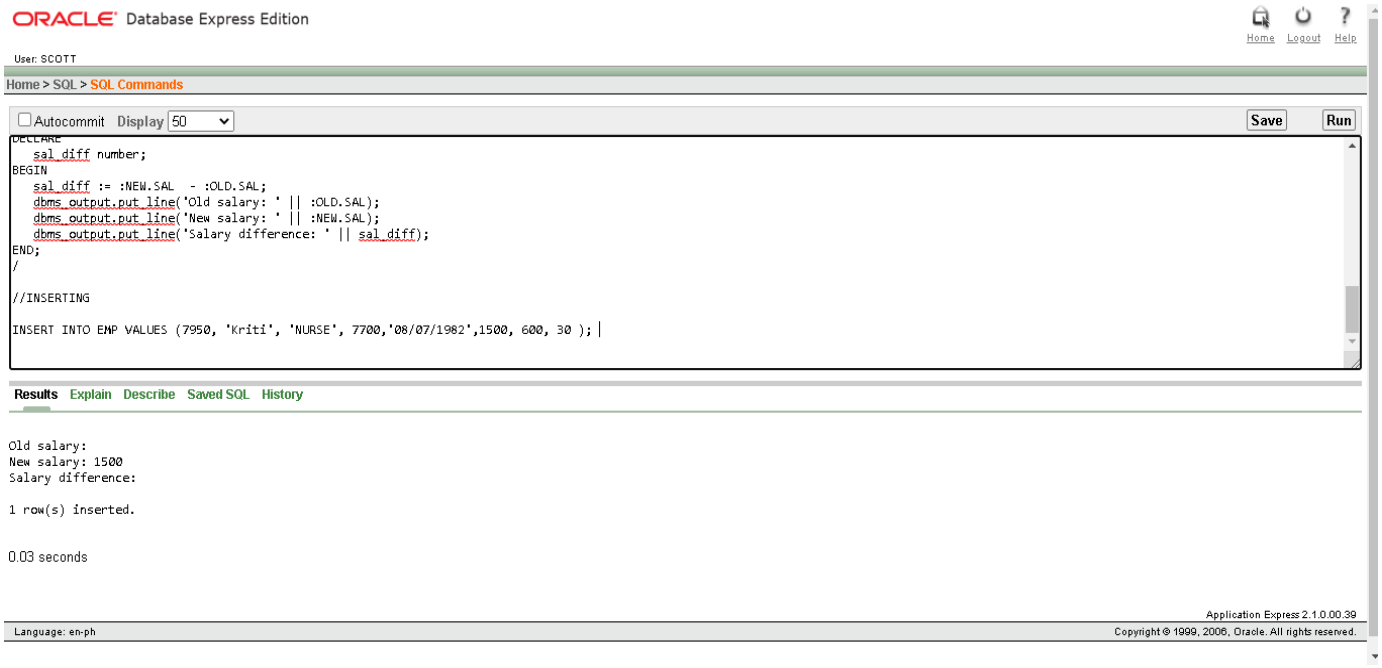
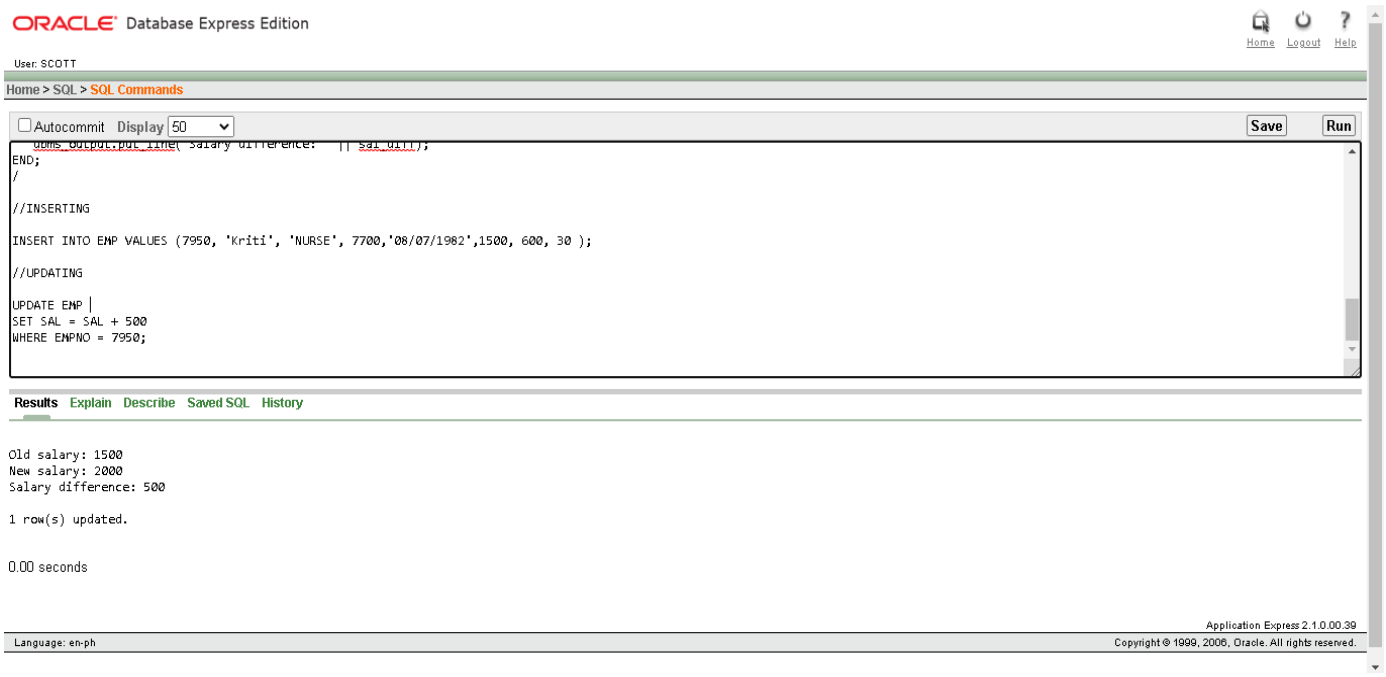

ORACLE Database Express Edition
Home Logout Help
User: SCOTT
Home > SQL > SQL Commands
Autocommit Display 50
Save Run
DECLARE
sal_diff number;
BEGIN
sal_diff := :NEW.SAL - :OLD.SAL;
dbms_output.put_line('Old salary: ' || :OLD.SAL);
dbms_output.put_line('New salary: ' || :NEW.SAL);
dbms_output.put_line('Salary difference: ' || sal_diff);
END;
/
//INSERTING
INSERT INTO EMP VALUES (7950, 'Kriti', 'NURSE', 7700,'08/07/1982',1500, 600, 30);
Results Explain Describe Saved SQL History
Old salary:
New salary: 1500
Salary difference:
1 row(s) inserted.
0.03 seconds
Application Express 2.1.0.00.39
Language: en-ph
Copyright © 1999, 2006, Oracle. All rights reserved.



2 . Fire Trigger while inserting new values to dept table

CREATE OR REPLACE TRIGGER dept_added

after INSERT ON dept

FOR EACH ROW

WHEN (NEW.deptno > 0)

BEGIN

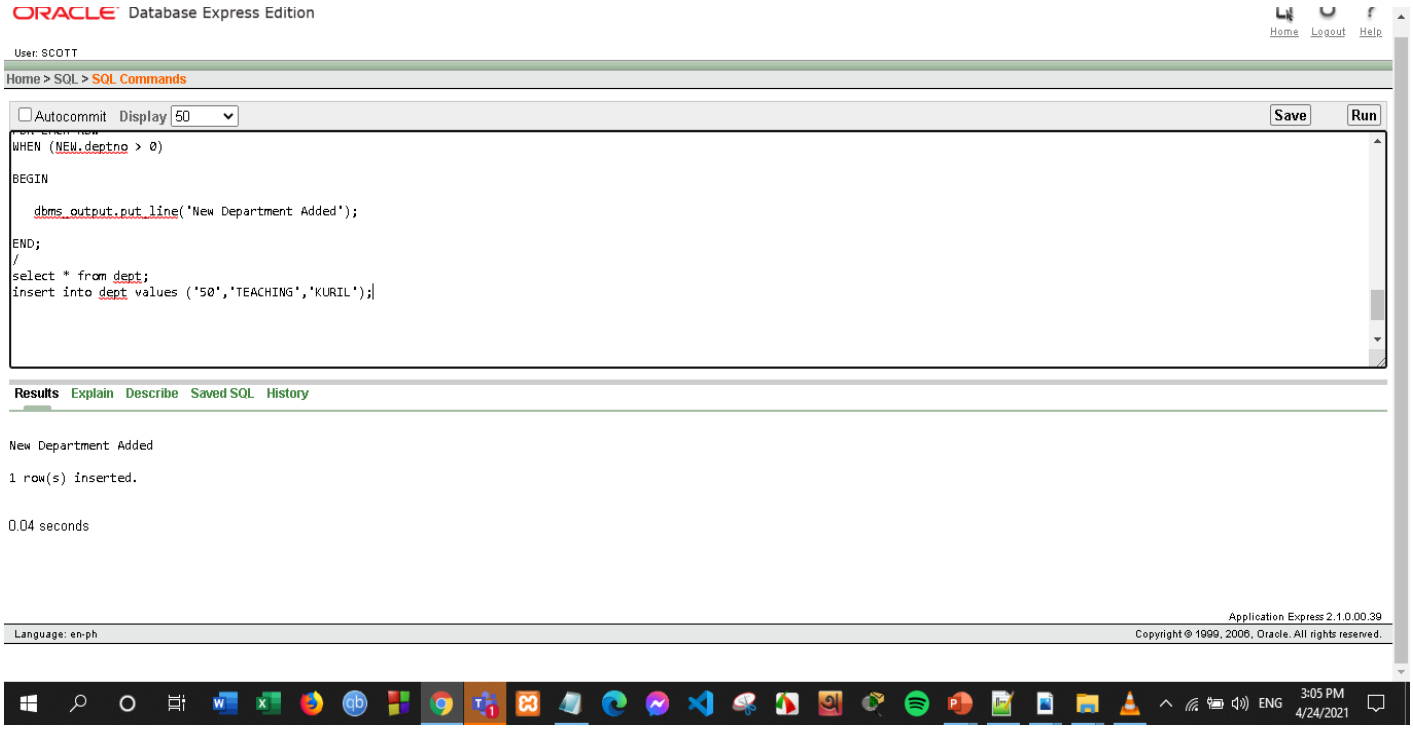
dbms_output.put_line('New Department Added');

END;

/

select * from dept;

insert into dept values ('50','TEACHING','KURIL');



3 . Fire trigger while finding salary difference of emp table.

```
CREATE TRIGGER display_salary_changes
BEFORE UPDATE ON EMP
FOR EACH ROW
WHEN (NEW.EMPNO > 0)
DECLARE
  sal_diff number;
BEGIN
  sal_diff := :NEW.SAL  - :OLD.SAL;
  dbms_output.put_line('Old salary: ' || :OLD.SAL);
  dbms_output.put_line('New salary: ' || :NEW.SAL);
  dbms_output.put_line('Salary difference: ' || sal_diff);
END;
```

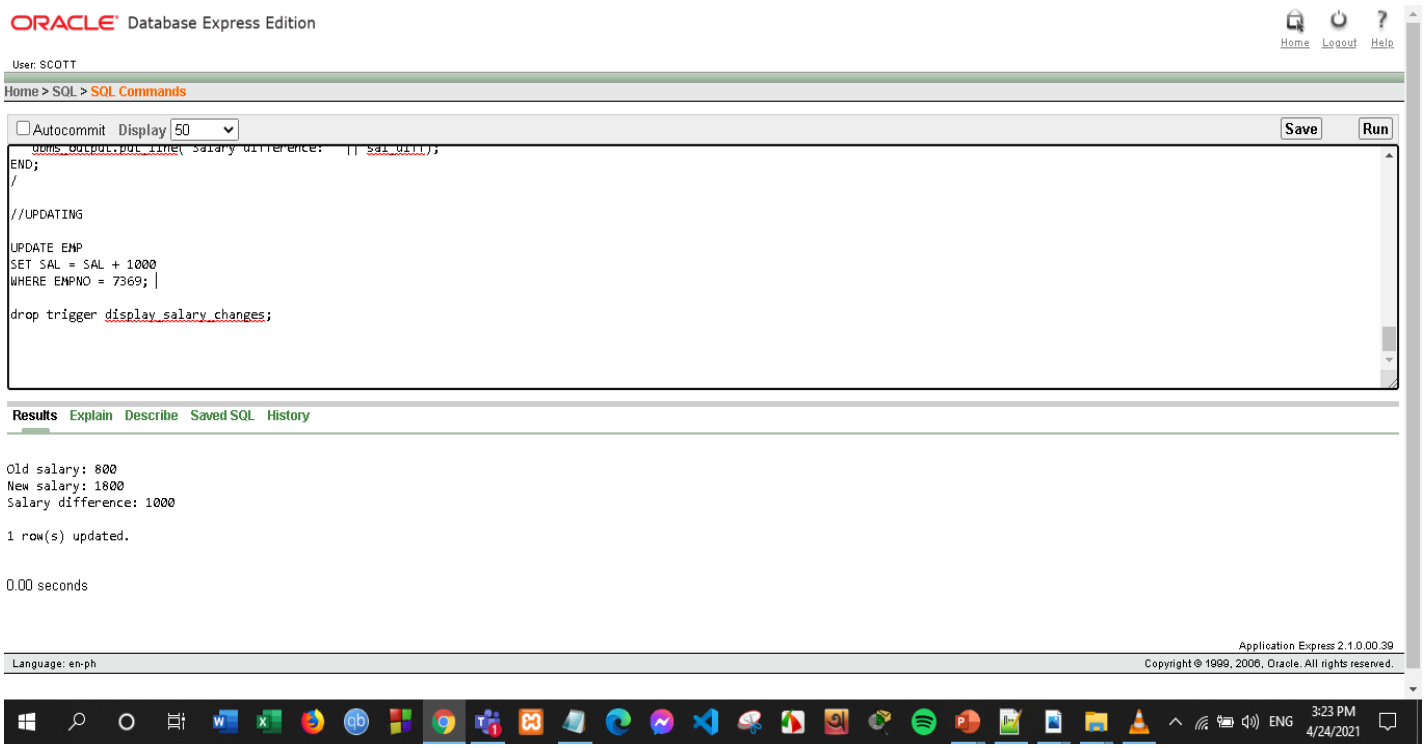
/

//UPDATING

UPDATE EMP

SET SAL = SAL + 1000

WHERE EMPNO = 7369;



(vi)PACKAGE

1 . Show ename from emp table serialwise using package.

CREATE OR REPLACE PACKAGE c_package AS

PROCEDURE addEmp(c_eid emp.eid%type,

c_ename emp.ename%type,

```
   c_job  emp.job%type,
   c_sal  emp.sal%type,
   c_contactno emp.contactno%type,
   c_gender emp.gender%type,
   c_eaddress emp.eaddress%type);


   PROCEDURE delEmp(c_eid  emp.eid%TYPE);
   PROCEDURE listEmp;

END c_package;
/


//NEW PACKAGE BODY


CREATE OR REPLACE PACKAGE BODY c_package AS
   PROCEDURE addEmp(c_eid  emp.eid%type,

      c_ename  emp.ename%type,
   c_job  emp.job%type,
   c_sal  emp.sal%type,
   c_contactno emp.contactno%type,
   c_gender emp.gender%type,
```

```
c_eaddress emp.eaddress%type)
IS
BEGIN
  INSERT INTO emp (eid,ename,job,sal,contactno,gender,eaddress)
    VALUES(c_eid, c_ename, c_job,c_sal,c_contactno,c_gender, c_eaddress);
END addEmp;

PROCEDURE delEmp(c_eid   emp.eid%type) IS
BEGIN
  DELETE FROM emp
  WHERE eid = c_eid;
END delEmp;

PROCEDURE listEmp IS
CURSOR c_emp is
  SELECT  ename FROM emp;
TYPE c_list is TABLE OF emp.ename%type;
ename_list c_list := c_list();
counter integer :=0;
BEGIN
  FOR n IN c_emp LOOP
  counter := counter +1;
  ename_list.extend;
  ename_list(counter) := n.ename;
  dbms_output.put_line('Emp(' ||counter|| ')'||ename_list(counter));
```

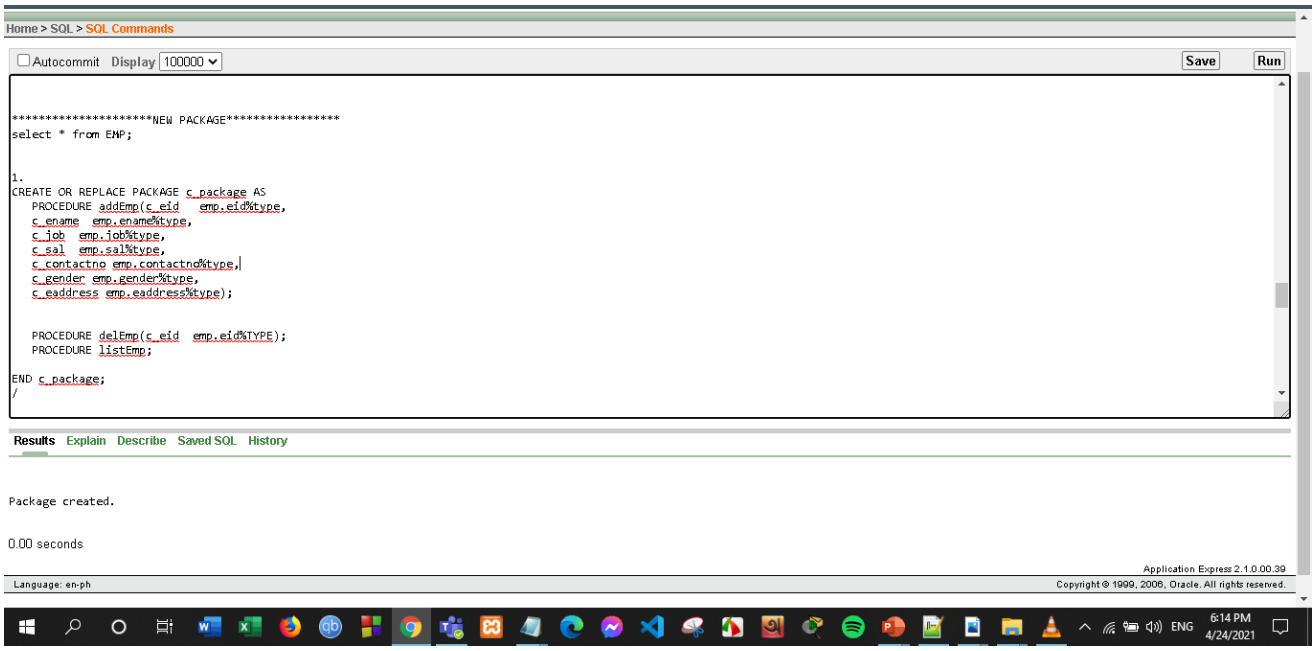
```
    END LOOP;
  END listEmp;

END c_package;
/



//Using Package

DECLARE
  code emp.eid%type:= 21;
BEGIN
  c_package.addEmp(1021,
'Rajnish','DOCTOR',7900,111100011,'MALE','CHATTOGRAM');
  c_package.addEmp(1022, 'Subham', 'DOCTOR',8300,1110101,'FEMALE',
'SYLHET');
  c_package.listEmp;
  c_package.delEmp(code);
  c_package.listEmp;
END;
/
```


Home > SQL > SQL Commands
Autocommit Display 100000
Save
Run
**********NEW PACKAGE**********
select * from EMP;
1.
CREATE OR REPLACE PACKAGE c_package AS
PROCEDURE addEmp(c_eid emp.eid%type,
c_ename emp.ename%type,
c_job emp.job%type,
c_sal emp.sal%type,
c_contactno emp.contactno%type,
c_gender emp.gender%type,
c_eaddress emp.eaddress%type);
PROCEDURE delEmp(c_eid emp.eid%TYPE);
PROCEDURE listEmp;
END c_package;
/
Results Explain Describe Saved SQL History
Package created.
0.00 seconds
Application Express 2.1.0.00.39
Language: en-ph
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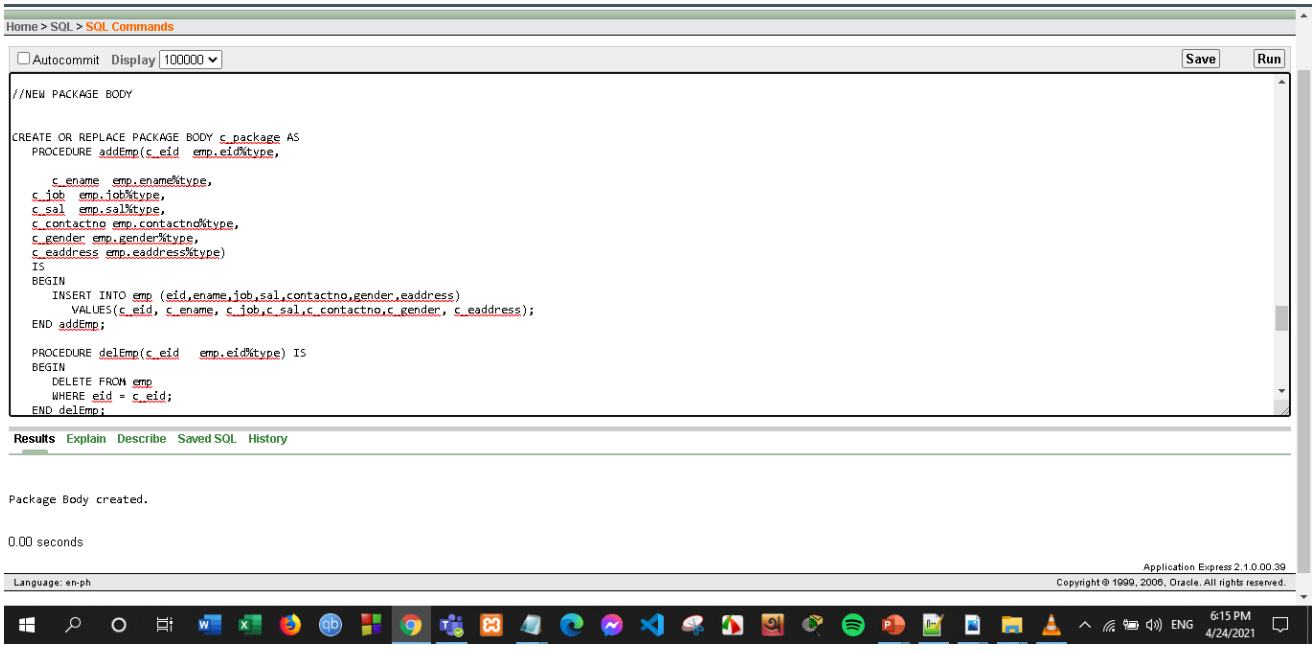
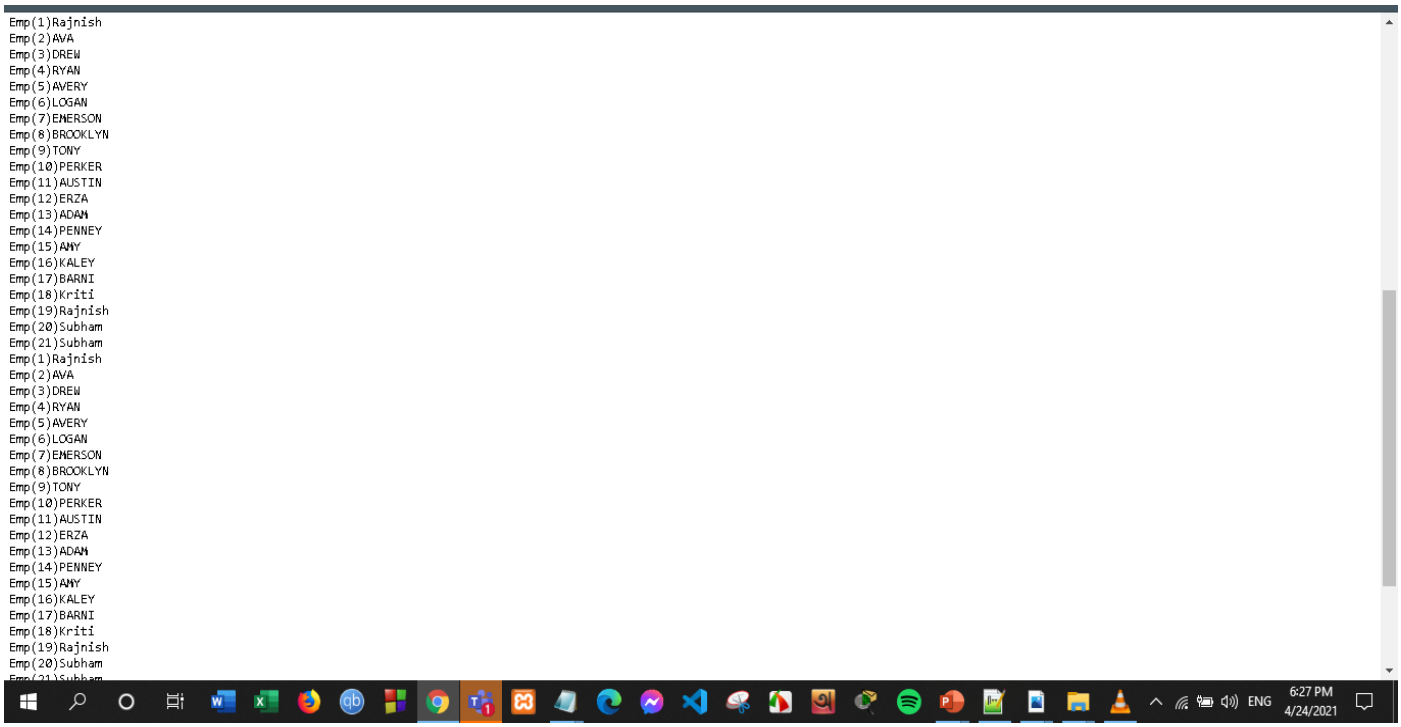
ENG
6:14 PM
4/24/2021


Home > SQL > SQL Commands
Autocommit Display 100000
Save
Run
//NEW PACKAGE BODY
CREATE OR REPLACE PACKAGE BODY c_package AS
PROCEDURE addEmp(c_eid emp.eid%type,
c_ename emp.ename%type,
c_job emp.job%type,
c_sal emp.sal%type,
c_contactno emp.contactno%type,
c_gender emp.gender%type,
c_eaddress emp.eaddress%type)
IS
BEGIN
INSERT INTO emp (eid,ename,job,sal,contactno,gender,eaddress)
VALUES(c_eid, c_ename, c_job,c_sal,c_contactno,c_gender, c_eaddress);
END addEmp;
PROCEDURE delEmp(c_eid emp.eid%type) IS
BEGIN
DELETE FROM emp
WHERE eid = c_eid;
END delEmp;
Results Explain Describe Saved SQL History
Package Body created.
0.00 seconds
Application Express 2.1.0.00.39
Language: en-ph
Copyright © 1999, 2006, Oracle. All rights reserved.
ENG
6:15 PM
4/24/2021



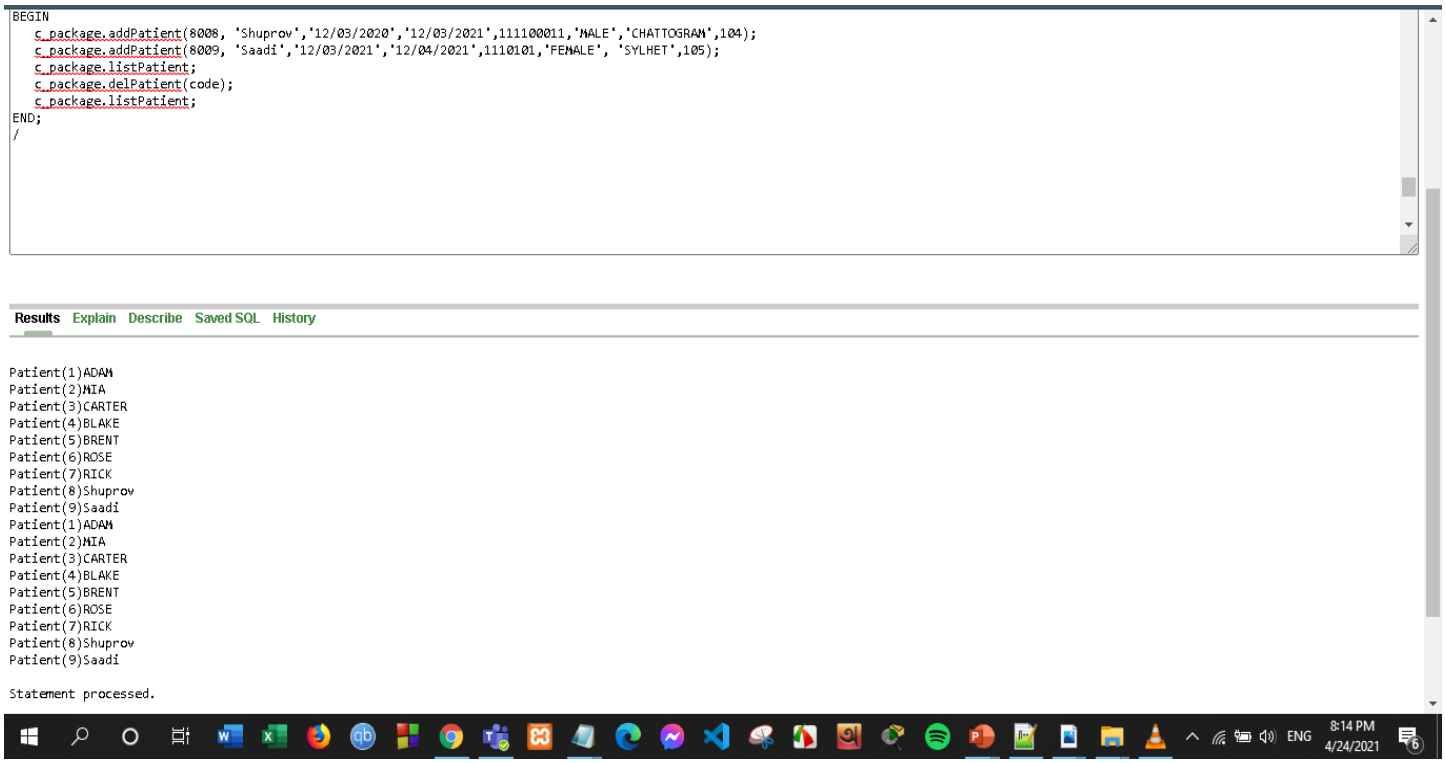
2 . Show serialwise pname from patient table using package.

```
CREATE OR REPLACE PACKAGE c_package AS
  PROCEDURE addPatient(c_pid   patient.pid%type,
  c_pname  patient.pname%type,
  c_padmitted  patient.padmitted%type,
  c_pdischarged  patient.pdischarged%type,
  c_contactno patient.contactno%type,
  c_gender patient.gender%type,
  c_paddress patient.paddress%type,
  c_room_id patient.room_id%type);


  PROCEDURE delPatient(c_pid  patient.pid%TYPE);
```

```
   PROCEDURE listPatient;

END c_package;
/


//NEW PACKAGE BODY


CREATE OR REPLACE PACKAGE BODY c_package AS
   PROCEDURE addPatient(c_pid  patient.pid%type,

   c_pname  patient.pname%type,
   c_padmitted  patient.padmitted%type,
   c_pdischarged  patient.pdischarged%type,
   c_contactno patient.contactno%type,
   c_gender patient.gender%type,
   c_paddress patient.paddress%type,
   c_room_id patient.room_id%type)

   IS
   BEGIN
      INSERT INTO patient
(pid,pname,padmitted,pdischarged,contactno,gender,paddress,room_id)
```

```
VALUES(c_pid,c_pname,c_padmitted,c_pdischarged,c_contactno,c_gender,c_paddres
s,c_room_id);
  END addPatient;


  PROCEDURE delPatient(c_pid   patient.pid%type) IS
  BEGIN
    DELETE FROM patient
    WHERE pid = c_pid;
  END delPatient;


  PROCEDURE listPatient IS
  CURSOR c_patient is
    SELECT  pname FROM patient;
  TYPE c_list is TABLE OF patient.pname%type;
  pname_list c_list := c_list();
  counter integer :=0;
  BEGIN
    FOR n IN c_patient LOOP
    counter := counter +1;
    pname_list.extend;
    pname_list(counter) := n.pname;
    dbms_output.put_line('Patient(' ||counter|| ')'||pname_list(counter));
    END LOOP;
  END listPatient;
```

```
END c_package;
/



//Using Package


DECLARE
   code patient.pid%type:= 9;
BEGIN
   c_package.addPatient(8008,
'Shuprov','12/03/2020','12/03/2021',111100011,'MALE','CHATTOGRAM',104);
   c_package.addPatient(8009, 'Saadi','12/03/2021','12/04/2021',1110101,'FEMALE',
'SYLHET',105);
   c_package.listPatient;
   c_package.delPatient(code);
   c_package.listPatient;
END;
/
```



3 . Show serialwise description of patients from records table using package .

CREATE OR REPLACE PACKAGE c_package AS

PROCEDURE addRecords(c_recordno records.recordno%type,

c_description records.description%type,

c_pid records.pid%type);

PROCEDURE delRecords(c_recordno records.recordno%TYPE);

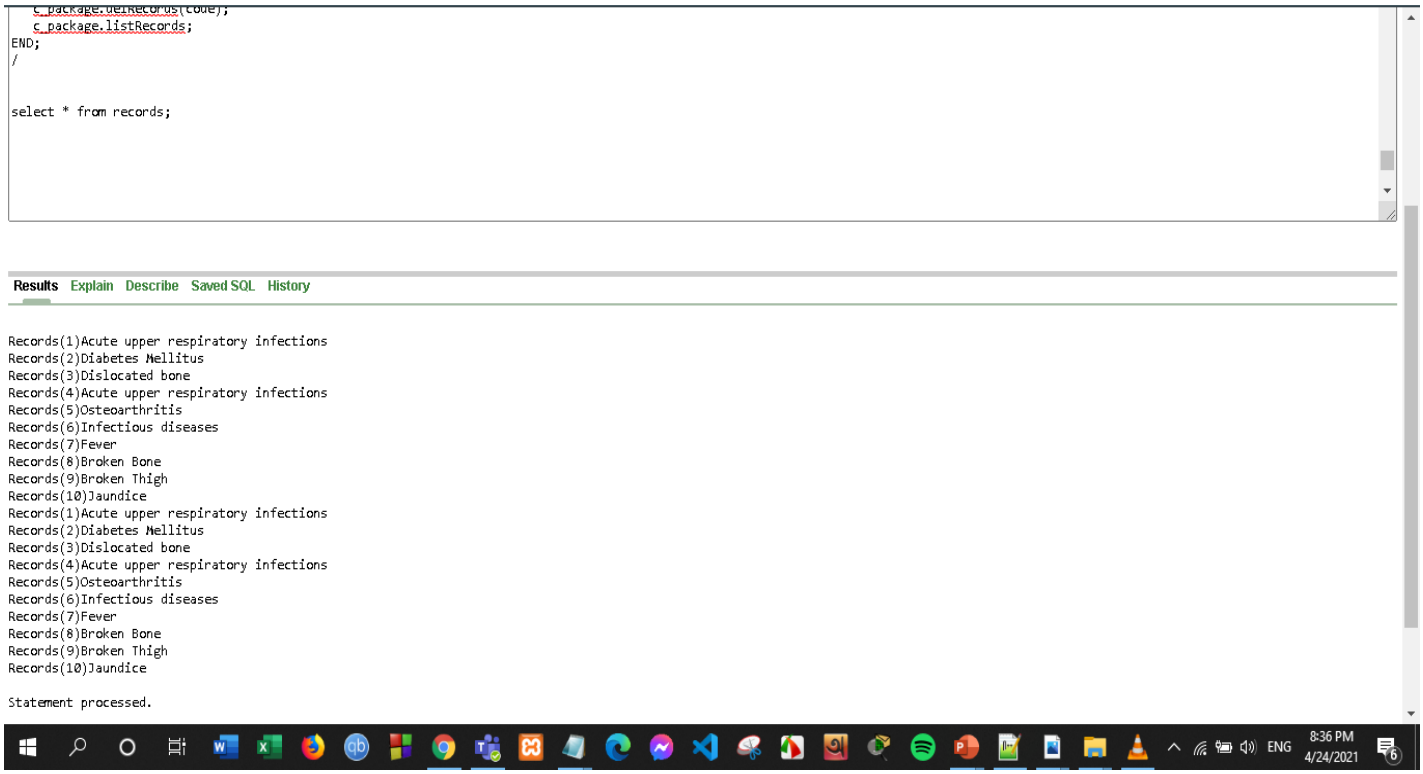
PROCEDURE listRecords;

END c_package;

```
/


//NEW PACKAGE BODY


CREATE OR REPLACE PACKAGE BODY c_package AS
  PROCEDURE addRecords(c_recordno  records.recordno%type,
c_description  records.description%type,
  c_pid  records.pid%type)
  IS
  BEGIN
    INSERT INTO records  (recordno,description,pid)
      VALUES(c_recordno,c_description,c_pid);
  END addRecords;

  PROCEDURE delRecords(c_recordno   records.recordno%type) IS
  BEGIN
    DELETE FROM records
    WHERE recordno = c_recordno;
  END delRecords;

  PROCEDURE listRecords IS
  CURSOR c_records is
    SELECT  description FROM records;
```

```
   TYPE c_list is TABLE OF records.description%type;
   description_list c_list := c_list();
   counter integer :=0;
   BEGIN
      FOR n IN c_records LOOP
      counter := counter +1;
      description_list.extend;
      description_list(counter) := n.description;
      dbms_output.put_line('Records(' ||counter|| ')'||description_list(counter));
      END LOOP;
   END listRecords;

END c_package;
/



//Using Package

DECLARE
   code records.recordno%type:= 10;
BEGIN
   c_package.addRecords(109, 'Broken Thigh',8003);
   c_package.addRecords(110, 'Jaundice',8005);
   c_package.listRecords;
```

```
   c_package.delRecords(code);
   c_package.listRecords;
END;
/
```



15.Conclusion

We have gone through various aspects and areas for completing our project. We have discovered various features while doing this project. We have some exciting features which we are willing to add in the future.