

Introduction to Database

Group Name: Up to Data

Project Name: Diagnostic Center Management System

Course Instructor: Kawser Irom Rushee

Section: C

Group Members Details:

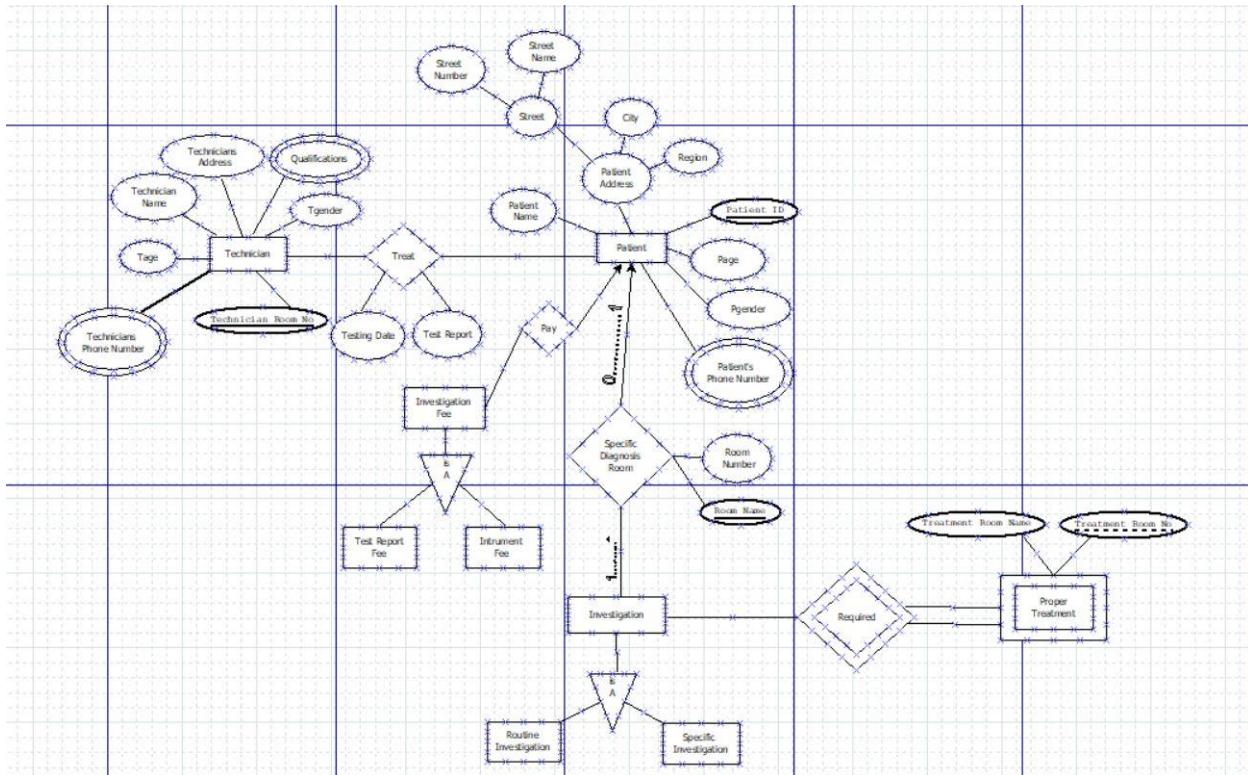
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Case Study

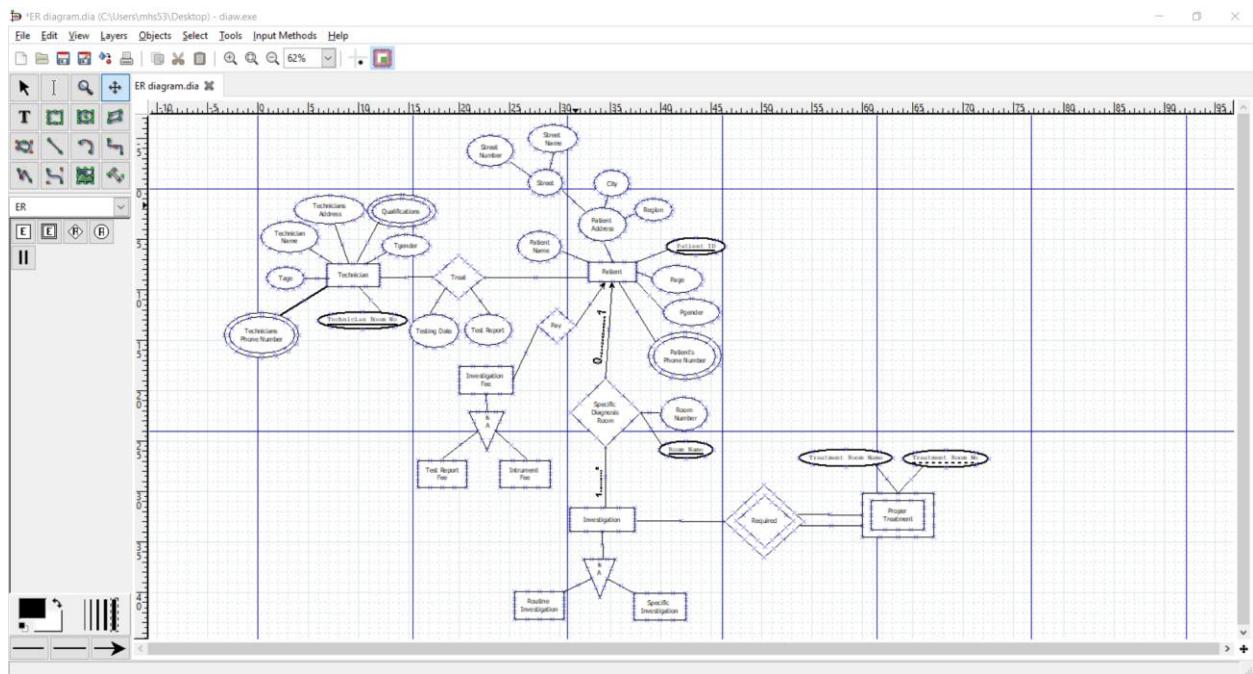
In a diagnostic center management system, a patient is treated by many technician. One technician can treat many patient. Here,a patient is identified by a patient id. Patient name, Patient's address, Pgender, patient's phone number , Page are also stored in computer. There may be multiple phone number of a patient. A patient address is composed of street,city and region. Street is composed of street- number and street- name. A technician is also identified by technician's room no. The computer also stores technician name, technician's address, Tgender, technician's phone- number, Tage and qualification. There may be multiple qualification and phone number of a technician. While technician treat patients, the Ptest report and testing date is given to patient. A patient may also pay many investigation fee. A investigation fee may be payed by exactly one patient. Test report fee and instrument fee can be generalized as investigation fee. A patient goes to specific diagnosis room for at least one investigation. One investigation is performed into the specific diagnosis room for at most one patient. Specific Diagnosis room is identified by room name. At the time of going to specific diagnosis room, patient check room number. Investigation can be specialized into routine investigation and specific investigation. Investigation is required for proper treatment. The existence of proper treatment is totally dependent on investigation. Here, proper treatment is identified by a treatment room no. Hospital's Treatment room name is also stored in diagnosis room's computer. Now draw an ER diagram according to the mentioned scenario.

ER Diagram

Screenshot Jpg Format:



Screenshot From Dia Software :



Normalization

Treat:

UNF:1st: technician name, technician address, qualification, Tgender, technician's phone number, Tage, technician's room no, patient name, street- number, street- name, city, region, Page, Pgender, patient's phone number, patient id, Ptesting date, test report

1NF:1st: technician's room no, technician's phone number, qualification, patient id, patient's phone number, technician name, technician address, Tgender, Tage, patient name, street- number, street- name, city, region, Page, Pgender, Ptesting date, test report

2NF:1st: technician's room no, technician's phone number, qualification, technician name, Tgender, Tage

2nd: technician's room no, technician's phone number, technician address

3rd: patient id, patient's phone number, patient name, street- number, street- name, city, region, Page, Pgender

4th: patient id, test report, Ptesting date

3NF: 1st: technician's room no, technician's phone number, qualification, technician name, Tgender, Tage

2nd: technician's room no, technician's phone number, technician address

3rd: patient id, patient's phone number, patient name, city, Page, Pgender

4th: City, street- number, street- name, region

5th: patient id, test report, Ptesting date

Pay:

UNF: 1st: patient id, patient's phone number , patient name, street- number, street- name, city, region, Page, Pgender, test report fee, instrument fee

1NF:1st: patient id, patient's phone number , patient name, street- number, street- name, city, region, Page, Pgender, test report fee, instrument fee

2NF:1st: patient id, patient's phone number , patient name, street- number, street- name, city, region, Page, Pgender, test report fee, instrument fee

3NF:1st: patient id, patient's phone number , patient name, city, Page, Pgender, test report fee

2nd: City, street- number, street- name, region

3rd: test report fee, instrument fee

Specific diagnosis room:

UNF:1st: patient id, patient's phone number , patient name, street- number, street- name, city, region, Page, Pgender, routine investigation, specific investigation, room name, room number

1NF:1st: patient id, patient's phone number , room name, patient name, street- number, street- name, city, region, Page, Pgender, routine investigation, specific investigation, room number

2NF:1st: patient id, patient's phone number , patient name, street- number, street- name, city, region, Page, Pgender

2nd: room name, routine investigation, specific investigation, room number

3NF:1st: patient id, patient's phone number , patient name, city, Page, Pgender,

2nd: City, street- number, street- name, region

3rd: room name, routine investigation, specific investigation, room number

Required:

UNF:1st: routine investigation, specific investigation, treatment room name, treatment room no

1NF:1st: treatment room no, routine investigation, specific investigation, treatment room name

2NF:2nd: treatment room no, routine investigation, specific investigation, treatment room name

3NF:1st: treatment room no, treatment room name, routine investigation, specific investigation

Final Table:

1st: technician's room no, technician's phone number, qualification, technician name, Tgender, Tag

2nd: technician's room no, technician's phone number, technician address

3rd: patient id, patient phone number, patient name, city, Page, Pgender

4th: City, street- number, street- name, region

5th: patient id, test report, Ptesting date

6th: patient id, patient's phone number, patient name, city, Page, Pgender, test report fee

7th: test report fee, instrument fee

8th: room name, routine investigation, specific investigation, room number

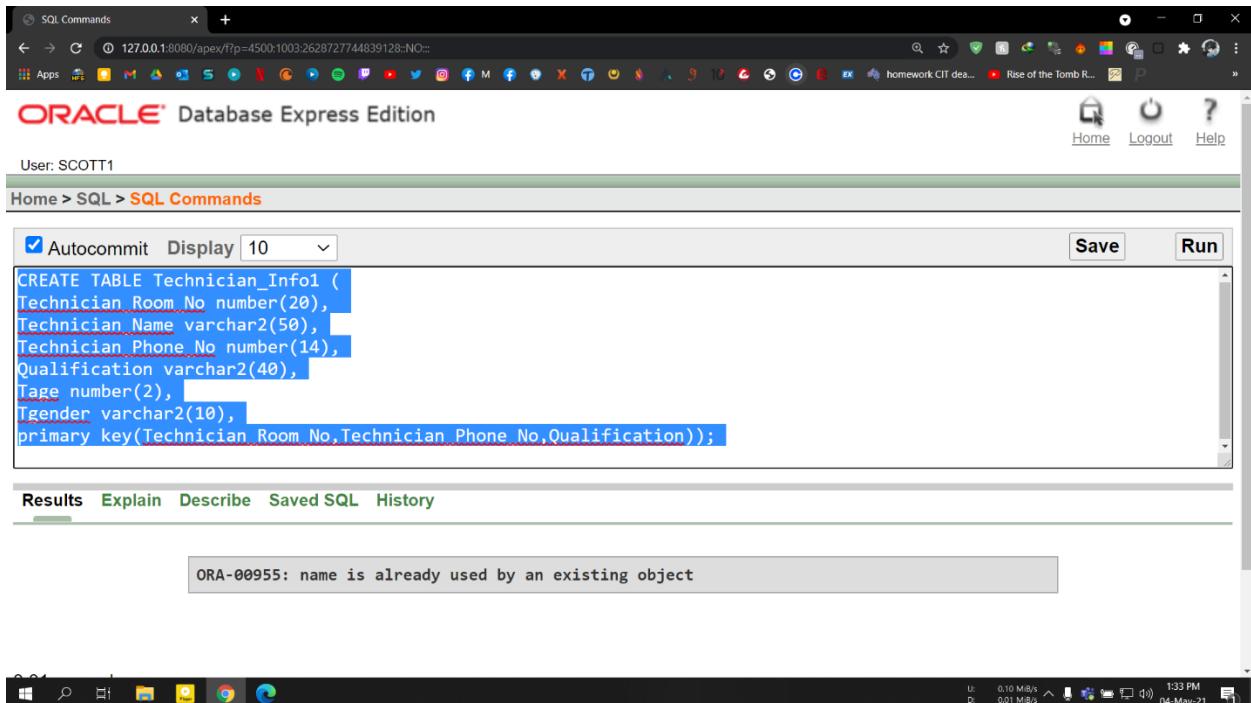
9th: treatment room no, treatment room name, routine investigation, specific investigation

Table Creation

1. Technician

```
CREATE TABLE Technician_Info1 (
    Technician_Room_No number(20),
    Technician_Name varchar2(50),
    Technician_Phone_No number(14),
    Qualification varchar2(40),
    Tage number(2),
    Tgender varchar2(10),
    primary key(Technician_Room_No,Technician_Phone_No,Qualification));
```

Table Screenshot:



The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window displays the following SQL code:

```
CREATE TABLE Technician_Info1 (
    Technician_Room_No number(20),
    Technician_Name varchar2(50),
    Technician_Phone_No number(14),
    Qualification varchar2(40),
    Tage number(2),
    Tgender varchar2(10),
    primary key(Technician_Room_No,Technician_Phone_No,Qualification));
```

The code is highlighted with red underlines under the table name and its columns. In the results pane below, there is an error message:

ORA-00955: name is already used by an existing object

2. Technician Info

```
CREATE TABLE Technician_Info2(
```

```

Technician_Room_No number(20),
Technician_Phone_No number(14),
Technician_Address varchar2(10),
primary key(Technician_Room_No,Technician_Phone_No)
);

```

Table Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The URL in the address bar is 127.0.0.1:8080/apex/?p=4500:1003:2628727744839128:NO:::. The page title is "SQL Commands". The user is SCOTT1. The main content area contains the following SQL code:

```

CREATE TABLE Technician_Info2(
Technician_Room_No number(20),
Technician_Phone_No number(14),
Technician_Address varchar2(10),
primary key(Technician_Room_No,Technician_Phone_No)
);

```

Below the code, there are buttons for "Save" and "Run". The status bar at the bottom displays the message "ORA-00955: name is already used by an existing object".

3.Patient

```

CREATE TABLE Patient (
Patient_id number(20),
Patient_Name varchar2(50),
Patient_Phone_No number(14),
City varchar2(40),
Page number(2),
Pgender varchar2(10),

```

```
primary key(Patient_id,Patient_Phone_No));
```

Table Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command entered is:

```
CREATE TABLE Patient (
    Patient_id number(20),
    Patient_Name varchar2(50),
    Patient_Phone_No number(14),
    City varchar2(40),
    Page number(2),
    Pgender varchar2(10),
    primary key(Patient_id,Patient_Phone_No));
```

The command fails with the error message:

```
ORA-00955: name is already used by an existing object
```

4. City

```
CREATE TABLE City (
    City varchar2(50) primary key,
    Street_Number number(14),
    Street_Name varchar2(40),
    Region varchar2(10)
);
```

Table Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is logged in as SCOTT. The SQL editor contains the following code:

```
CREATE TABLE City (
    City varchar2(50) primary key,
    Street_Number number(14),
    Street_Name varchar2(40),
    Region varchar2(10)
);
```

The code is highlighted with syntax coloring. Below the editor, there are tabs for Results, Explain, Describe, Saved SQL, and History. A message box displays the error: ORA-00955: name is already used by an existing object.

5.Patient Info1

```
CREATE TABLE Patient_Info1(
Patient_id number(20),
Test_Report varchar2(100),
Ptesting_date date not null,
primary key(Test_Report)
);
```

Table Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL code attempts to create a table named Patient_Info1 with a primary key on the column Test_Report. The code is as follows:

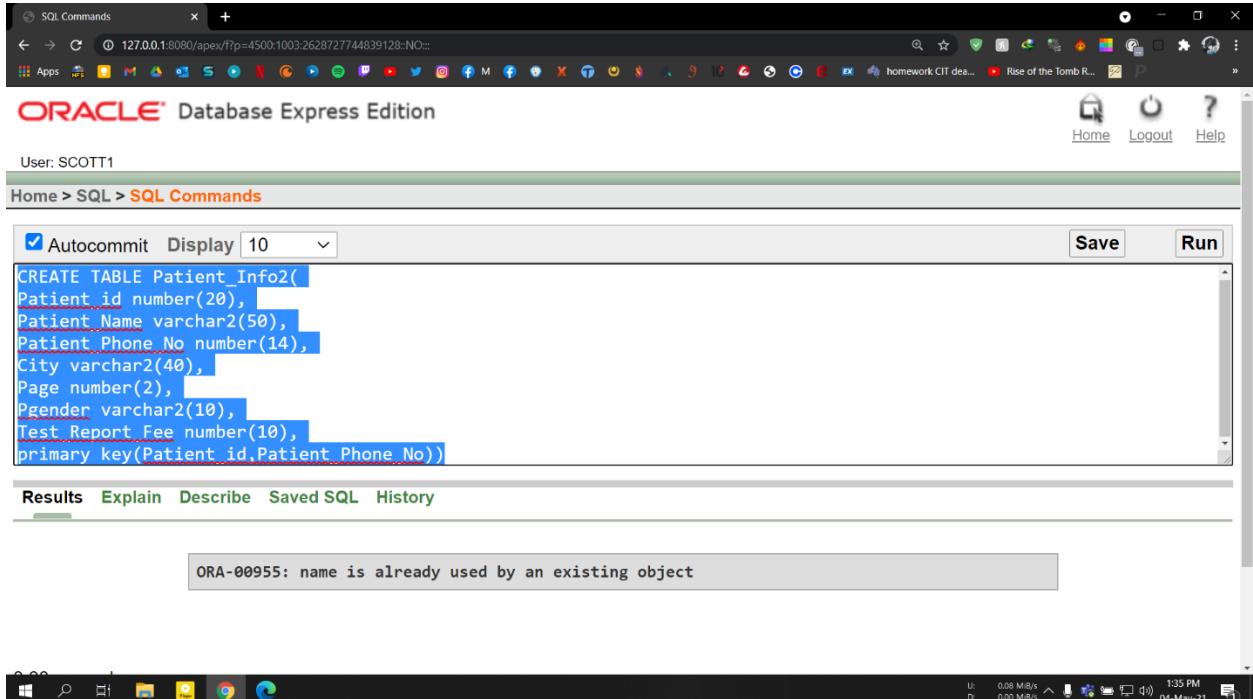
```
CREATE TABLE Patient_Info1(
Patient_id number(20),
Test_Report varchar2(100),
Ptesting date not null,
primary key(Test_Report)
);
```

An error message is displayed: ORA-00955: name is already used by an existing object.

6.Patient Info2

```
CREATE TABLE Patient_Info2(
Patient_id number(20),
Patient_Name varchar2(50),
Patient_Phone_No number(14),
City varchar2(40),
Page number(2),
Pgender varchar2(10),
Test_Report_Fee number(10),
primary key(Patient_id,Patient_Phone_No))
```

Table Screenshot:



The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT1. The SQL editor contains the following code:

```
CREATE TABLE Patient_Info2(
Patient_id number(20),
Patient_Name varchar2(50),
Patient_Phone_No number(14),
City varchar2(40),
Page number(2),
Pgender varchar2(10),
Test_Report_Fee number(10),
primary key(Patient_id,Patient_Phone_No))
```

The code is highlighted with syntax coloring. A message box at the bottom displays the error: ORA-00955: name is already used by an existing object.

7.Test Report

```
CREATE TABLE Test_Report (
Test_Report_Fee number(10) primary key,
Instrument_Fee number(10)
);
```

Table Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL command entered is:

```
CREATE TABLE Test_Report (
Test_Report_Fee number(10) primary key,
Instrument_Fee number(10)
);
```

The results pane displays the error message:

ORA-00955: name is already used by an existing object

8. Room Name

```
CREATE TABLE Room_Name (
Room_Name varchar2(10) primary key,
Routine_Investigation varchar2(50),
Specific_Investigation varchar2(50),
Room_Number number(10)
);
```

Table Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT1. The SQL editor contains the following code:

```
CREATE TABLE Room_Name (
Room Name varchar2(10) primary key,
Routine Investigation varchar2(50),
Specific Investigation varchar2(50),
Room Number number(10)
);
```

The code is highlighted with red underlines under 'Room Name', 'Routine Investigation', 'Specific Investigation', and 'Room Number'. The interface includes a toolbar with Autocommit checked, a display dropdown set to 10, and buttons for Save and Run. Below the editor, tabs for Results, Explain, Describe, Saved SQL, and History are visible. A message box at the bottom displays the error: ORA-00955: name is already used by an existing object.

9. Treatment Room

```
CREATE TABLE Treatment_Room (
Treatment_room_no number(10) primary key,
Treatment_room_Name varchar2(20),
Routine_Investigation varchar2(50),
Specific_Investigation varchar2(50)
);
```

Table Screenshot

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT1. The SQL code entered is:

```
CREATE TABLE Treatment_Room (
Treatment room no number(10) primary key,
Treatment room Name varchar2(20),
Routine Investigation varchar2(50),
Specific Investigation varchar2(50)
);
```

The results window displays the error message: ORA-00955: name is already used by an existing object.

Data Insertion

1. Technician

```
INSERT INTO Technician_Info1
```

```
VALUES (304,'Mr. koushik',+8801819471121,'B.Sc in medical laboratory technology',28,'Male');
```

```
INSERT INTO Technician_Info1
```

```
VALUES (103,'Mrs. Asma',+8801745216636,'B.Sc in Dialysis',26,'Female');
```

```
INSERT INTO Technician_Info1
```

```
VALUES (247,'Mr. Ahmed',+8801929298982,'M.Sc in Medicine',30,'Male');
```

Screenshot:

SQL Commands x +

127.0.0.1:8080/apex/?p=4500:1003:2628727744839128:NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10 Save Run

```
INSERT INTO Technician_Info1
VALUES (304,'Mr. koushik',+8801819471121,'B.Sc in medical laboratory technology',28,'Male');
INSERT INTO Technician_Info1
VALUES (103,'Mrs. Asma',+8801745216636,'B.Sc in Dialysis',26,'Female');
INSERT INTO Technician_Info1
VALUES (247,'Mr. Ahmed',+8801929298982,'M.Sc in Medicine',30,'Male');
```

Results Explain Describe Saved SQL History

ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated

0:00 2:11 PM 04-May-21

Results Explain Describe Saved SQL History

TECHNICIAN_ROOM_NO	TECHNICIAN_NAME	TECHNICIAN_PHONE_NO	QUALIFICATION	TAGE	TGENDER
304	Mr. koushik	8801819471121	B.Sc in medical laboratory technology	28	Male
103	Mrs. Asma	8801745216636	B.Sc in Dialysis	26	Female
247	Mr. Ahmed	8801929298982	M.Sc in Medicine	30	Male

3 rows returned in 0.02 seconds CSV Export

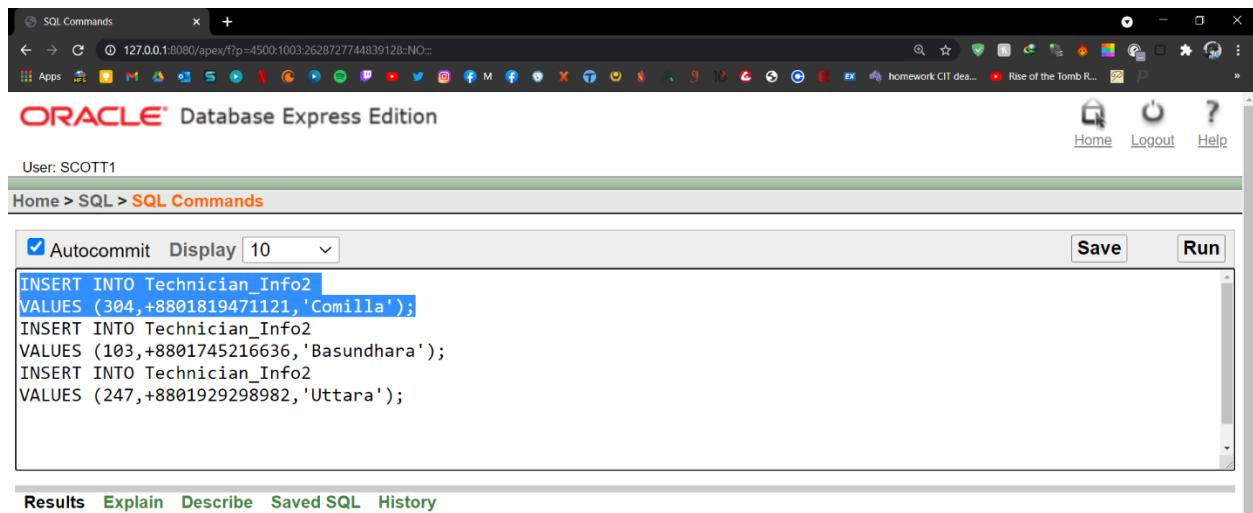
2.Technician Info

```
INSERT INTO Technician_Info2
VALUES (304,+8801819471121,'Comilla');

INSERT INTO Technician_Info2
VALUES (103,+8801745216636,'Basundhara');

INSERT INTO Technician_Info2
VALUES (247,+8801929298982,'Uttara');
```

Screenshot:



The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT1. In the SQL editor, the following SQL code is entered:

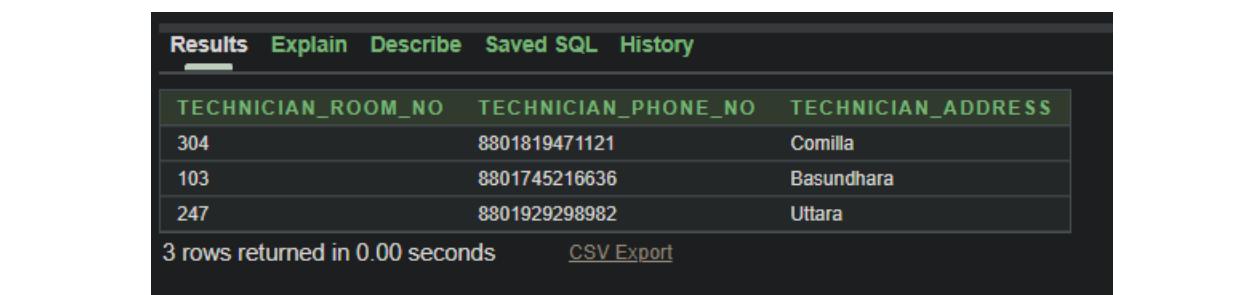
```
INSERT INTO Technician_Info2
VALUES (304,+8801819471121,'Comilla');
INSERT INTO Technician_Info2
VALUES (103,+8801745216636,'Basundhara');
INSERT INTO Technician_Info2
VALUES (247,+8801929298982,'Uttara');
```

An error message is displayed below the editor:

ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated



The screenshot shows the Windows taskbar and system tray. The taskbar includes icons for File Explorer, Task View, Start, Search, Taskbar settings, and other pinned applications. The system tray shows network status, battery level, and system time (2:12 PM, 04-May-21).



The results window displays the data inserted into the Technician_Info2 table:

TECHNICIAN_ROOM_NO	TECHNICIAN_PHONE_NO	TECHNICIAN_ADDRESS
304	8801819471121	Comilla
103	8801745216636	Basundhara
247	8801929298982	Uttara

3 rows returned in 0.00 seconds [CSV Export](#)

3.Patient

INSERT INTO Patient

VALUES (202110,'Soumik Roy',+8801780363359,'Bandar',35,'Male');

INSERT INTO Patient

VALUES (202117,'Mahdiya Arbina',+8801789437321,'Sirajgonj',29,'Female');

INSERT INTO Patient

VALUES (2021320,'Marmita',+8801780564632,'Golachipa',22,'Female');

Screenshot:

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10

```
INSERT INTO Patient
VALUES (202110,'Soumik Roy',+8801780363359,'Bandar',35,'Male');
INSERT INTO Patient
VALUES (202117,'Mahdiya Arbina',+8801789437321,'Sirajgonj',29,'Female');
INSERT INTO Patient
VALUES (2021320,'Marmita',+8801780564632,'Golachipa',22,'Female');
```

Results Explain Describe Saved SQL History

ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated

PATIENT_ID	PATIENT_NAME	PATIENT_PHONE	CITY	PAGE	PGENDER
202110	Soumik Roy	8801780363359	Bandar	35	Male
202117	Mahdiya Arbina	8801789437321	Sirajgonj	29	Female
2021320	Marmita	8801780564632	Golachipa	22	Female

3 rows returned in 0.00 seconds [CSV Export](#)

4. City

INSERT INTO City

VALUES ('Bandar',175,'College Road','Bangladesh');

INSERT INTO City

VALUES ('Sirajgonj',112,'K.c Dhor road','Bangladesh');

INSERT INTO City

VALUES ('Golachipa',286,'Amlapara','Bangladesh');

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL code attempts to insert three rows into the 'City' table, but fails due to a unique constraint violation:

```

INSERT INTO City
VALUES ('Bandar',175,'College Road','Bangladesh');
INSERT INTO City
VALUES ('Sirajgonj',112,'K.c Dhor road','Bangladesh');
INSERT INTO City
VALUES ('Golachipa',286,'Amlapara','Bangladesh');

```

An error message box displays: ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated

CITY	STREET_NUMBER	STREET_NAME	REGION
Bandar	175	College Road	Bangladesh
Sirajgonj	112	K.c Dhor road	Bangladesh
Golachipa	286	Amlapara	Bangladesh

3 rows returned in 0.00 seconds [CSV Export](#)

5.Patient Info1

```

INSERT INTO Patient_Info1
VALUES (202110,'Surgical Pathology Report','20-JUN-21');

INSERT INTO Patient_Info1
VALUES (202117,'Psychological Report','03-APRIL-20');

INSERT INTO Patient_Info1
VALUES (2021320,'Heart Diagnosis Report','04-DEC-21');

```

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL code entered is:

```
INSERT INTO Patient_Info1
VALUES (202110,'Surgical Pathology Report','20-JUN-21');
INSERT INTO Patient_Info1
VALUES (202117,'Psychological Report','03-APRIL-20');
INSERT INTO Patient_Info1
VALUES (2021320,'Heart Dignosis Report','04-DEC-21');
```

An error message is displayed: ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated

The results table shows the following data:

PATIENT_ID	TEST_REPORT	PTESTING_DATE
202110	Surgical Pathology Report	20-JUN-21
202117	Psychological Report	03-APR-20
2021320	Heart Dignosis Report	04-DEC-21

3 rows returned in 0.00 seconds [CSV Export](#)

6.Patient Info2

```
INSERT INTO Patient_Info2
VALUES (202110,'Soumik Roy',+8801780363359,'Bandar',35,'Male',950);

INSERT INTO Patient_Info2
VALUES (202117,'Mahdiya Arbina',+8801789437321,'Sirajgonj',29,'Female',1000);

INSERT INTO Patient_Info2
VALUES (2021320,'Marmita',+8801780564632,'Golachipa',22,'Female',880);
```

Screenshot:

SQL Commands

127.0.0.1:8080/apex/?p=4500:1003:2628727744839128:NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10 Save Run

```
INSERT INTO Patient_Info2  
VALUES (202110,'Soumik Roy',+8801780363359,'Bandar',35,'Male',950);  
INSERT INTO Patient_Info2  
VALUES (202117,'Mahdiya Arbina',+8801789437321,'Sirajgonj',29,'Female',1000);  
INSERT INTO Patient_Info2  
VALUES (2021320,'Marmita',+8801780564632,'Golachipa',22,'Female',880);
```

Results Explain Describe Saved SQL History

ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated

0:00 2:14 PM 04-May-21

Results Explain Describe Saved SQL History

PATIENT_ID	PATIENT_NAME	PATIENT_PHONE_NO	CITY	PAGE	PGENDER	TEST_REPORT_FEE
202110	Soumik Roy	8801780363359	Bandar	35	Male	950
202117	Mahdiya Arbina	8801789437321	Sirajgonj	29	Female	1000
2021320	Marmita	8801780564632	Golachipa	22	Female	880

3 rows returned in 0.00 seconds CSV Export

7.Test Report

INSERT INTO Test_Report

VALUES (950,1000);

INSERT INTO Test_Report

VALUES (1000,1200);

INSERT INTO Test_Report

VALUES (880,2900);

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. In the SQL editor, there are three INSERT statements into a table named 'Test_Report'. The first statement fails with an ORA-00001 error because it violates a unique constraint. The second and third statements succeed, inserting rows with values (1000, 1200) and (880, 2900) respectively.

```

User: SCOTT
Home > SQL > SQL Commands

 Autocommit Display 10  
INSERT INTO Test_Report
VALUES (950,1000);
INSERT INTO Test_Report
VALUES (1000,1200);
INSERT INTO Test_Report
VALUES (880,2900);

Results Explain Describe Saved SQL History

ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated

```

TEST_REPORT_FEE	INSTRUMENT_FEE
950	1000
1000	1200
880	2900

3 rows returned in 0.00 seconds [CSV Export](#)

8. Room Name

INSERT INTO Room_Name

VALUES ('Medi Lab','Saturday,Tuesday,Thursday','Sunday',101);

INSERT INTO Room_Name

VALUES ('Consultant','Friday,Tuesday,Thursday','Monday',307);

INSERT INTO Room_Name

VALUES ('ECG Lab','Saturday,Wednesday','Friday',10);

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. In the SQL editor, there is an attempt to insert data into the 'Room Name' table:

```
INSERT INTO Room Name
VALUES ('Medi Lab', 'Saturday,Tuesday,Thursday', 'Sunday', 101);
INSERT INTO Room Name
VALUES ('Consultant', 'Friday,Tuesday,Thursday', 'Monday', 307);
INSERT INTO Room Name
VALUES ('ECG Lab', 'Saturday,Wednesday', 'Friday', 10);
```

An error message is displayed in a modal dialog: "ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated".



The screenshot shows the results of the SQL query execution. The table has columns: ROOM_NAME, ROUTINE_INVESTIGATION, SPECIFIC_INVESTIGATION, and ROOM_NUMBER. The data is as follows:

ROOM_NAME	ROUTINE_INVESTIGATION	SPECIFIC_INVESTIGATION	ROOM_NUMBER
Medi Lab	Saturday,Tuesday,Thursday	Sunday	101
Consultant	Friday,Tuesday,Thursday	Monday	307
ECG Lab	Saturday,Wednesday	Friday	10

3 rows returned in 0.00 seconds [CSV Export](#)

9. Treatment Room

INSERT INTO Treatment_Room

VALUES (09,'Surgery Lab','Saturday','Wednesday');

INSERT INTO Treatment_Room

VALUES (101,'Discussion Room','Friday','Monday');

INSERT INTO Treatment_Room

VALUES (309,'Heart Dignosis Lab','Wednesday','Friday');

Screenshot:

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2628727744839128::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10

```
INSERT INTO Treatment_Room
VALUES (09,'Surgery Lab','Saturday','Wednesday');
INSERT INTO Treatment_Room
VALUES (101,'Discussion Room','Friday','Monday');
INSERT INTO Treatment_Room
VALUES (309,'Heart Dignosis Lab','Wednesday','Friday');
```

Results Explain Describe Saved SQL History

ORA-00001: unique constraint (SCOTT1.SYS_C004264) violated



Results Explain Describe Saved SQL History

TREATMENT_ROOM_NO	TREATMENT_ROOM_NAME	ROUTINE_INVESTIGATION	SPECIFIC_INVESTIGATION
101	ECG	Normal	Found Some Substance
9	Surgery Lab	Saturday	Wednesday
309	Heart Dignosis Lab	Wednesday	Friday

3 rows returned in 0.00 seconds [CSV Export](#)

Joining

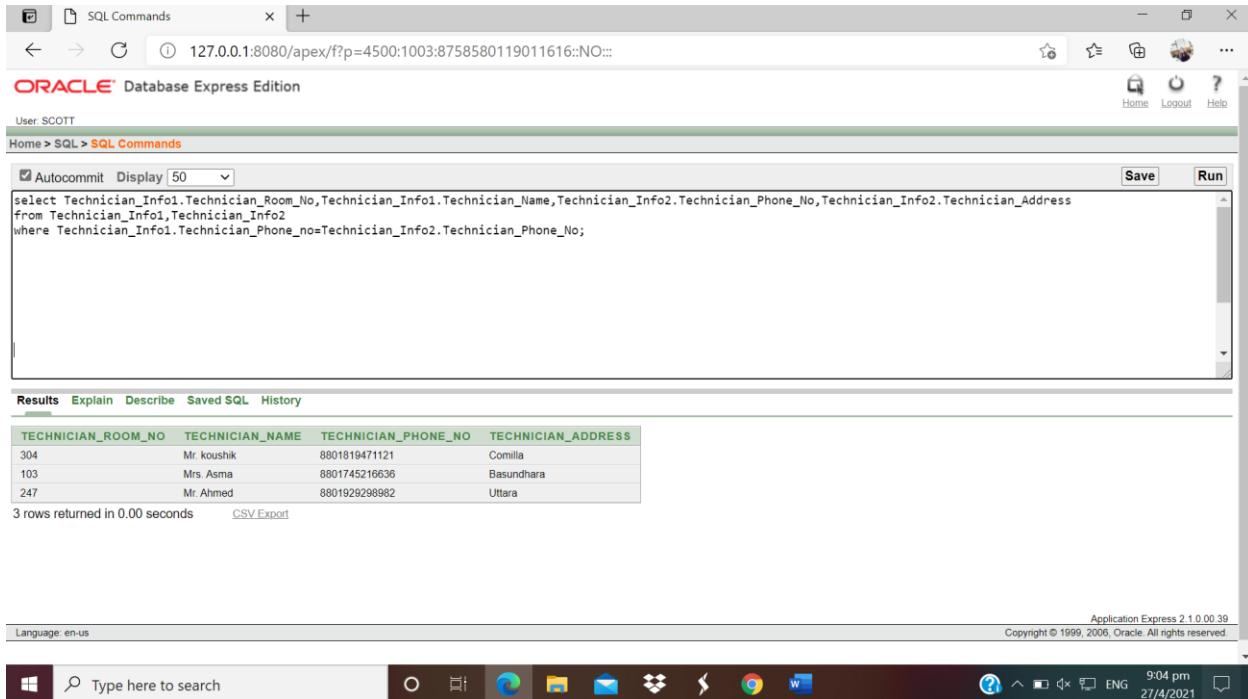
Equijoin 01:

```
select
Technician_Info1.Technician_Room_No,Technician_Info1.Technician_Name,Technician_Info2.Technici
an_Phone_No,Technician_Info2.Technician_Address

from Technician_Info1,Technician_Info2
```

where Technician_Info1.Technician_Phone_no=Technician_Info2.Technician_Phone_No;

Screenshot:



The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window displays the following SQL query:

```
select Technician_Info1.Technician_Room_No,Technician_Info1.Technician_Name,Technician_Info2.Technician_Phone_No,Technician_Info2.Technician_Address  
from Technician_Info1,Technician_Info2  
where Technician_Info1.Technician_Phone_no=Technician_Info2.Technician_Phone_No;
```

The results pane shows three rows of data:

TECHNICIAN_ROOM_NO	TECHNICIAN_NAME	TECHNICIAN_PHONE_NO	TECHNICIAN_ADDRESS
304	Mr. koushik	8801819471121	Comilla
103	Mrs. Asma	8801745216636	Basundhara
247	Mr. Ahmed	8801929298982	Uttara

Below the results, it says "3 rows returned in 0.00 seconds".

The system status bar at the bottom right indicates "Application Express 2.1.0.0.39", "Copyright © 1999, 2006, Oracle. All rights reserved.", "Language: en-us", "9:04 pm 27/4/2021", and "ENG".

Equijoin 02:

```
select Patient.Patient_Id,Patient.Patient_Name,Patient_Info1.Test_Report,Patient_Info1.Ptesting_Date  
from Patient,Patient_Info1  
where Patient.Patient_Id=Patient_Info1.Patient_Id;
```

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The URL in the address bar is 127.0.0.1:8080/apex/f?p=4500:1003:8758580119011616::NO:::. The user is SCOTT. The SQL command entered is:

```
select Patient.Patient_Id,Patient.Patient_Name,Patient_Info1.Test_Report,Patient_Info1.Ptesting_Date
from Patient,Patient_Info1
where Patient.Patient_Id=Patient_Info1.Patient_Id;
```

The results show three rows of data:

TECHNICIAN_ROOM_NO	TECHNICIAN_NAME	TECHNICIAN_PHONE_NO	TECHNICIAN_ADDRESS
304	Mr. koushik	8801819471121	Comilla
103	Mrs. Asma	8801745216636	Basundhara
247	Mr. Ahmed	8801929298982	Uttara

3 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.0.39
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Windows taskbar at the bottom: Type here to search, Start button, File Explorer, Internet Explorer, Mail, File, Task View, Taskbar settings, System, Date/Time (9:11 pm, 27/4/2021).

Outer Join:

```
select Technician_Info1.Technician_Room_No,Technician_Info2.Technician_Phone_No
from Technician_Info1
full outer join Technician_Info2 on
Technician_Info1.Technician_Phone_No=Technician_Info2.Technician_Phone_No
order by Technician_Info1.Technician_Room_No;
```

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands window. The URL in the address bar is 127.0.0.1:8080/apex/f?p=4500:1003:8758580119011616::NO:::. The window title is "SQL Commands". The user is SCOTT. The SQL code entered is:

```
select Technician_Info1.Technician_Room_No,Technician_Info2.Technician_Phone_No
from Technician_Info1
full outer join Technician_Info2 on Technician_Info1.Technician_Phone_No=Technician_Info2.Technician_Phone_No
order by Technician_Info1.Technician_Room_No;
```

The results section displays the following table:

TECHNICIAN_ROOM_NO	TECHNICIAN_PHONE_NO
103	8801745216636
247	8801929296982
304	8801819471121

3 rows returned in 0.39 seconds. There is a "CSV Export" link.

At the bottom, it says Application Express 2.1 0 00 39 Copyright © 1999, 2006, Oracle. All rights reserved.

Self Join:

```
select Patient.Patient_Name as Patient_Name1,Patient_Info2.Patient_Name as
Patient_Name2,Patient.City
from Patient,Patient_Info2
where Patient.Patient_Id=Patient_Info2.Patient_Id
And Patient.City=Patient_Info2.City
Order by Patient.City;
```

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands window. The URL in the address bar is 127.0.0.1:8080/apex/f?p=4500:1003:8758580119011616::NO:::. The window title is "SQL Commands". The user is SCOTT. The SQL query is:

```
select Patient.Patient_Name as Patient_Name1,Patient_Info2.Patient_Name as Patient_Name2,Patient.City
from Patient,Patient_Info2
where Patient.Patient_Id=Patient_Info2.Patient_Id
And Patient.City=Patient_Info2.City
Order by Patient.City;
```

The results show three rows:

PATIENT_NAME1	PATIENT_NAME2	CITY
Soumik Roy	Soumik Roy	Bandar
Marmita	Marmita	Golachipa
Mahdiya Arbina	Mahdiya Arbina	Sravonj

3 rows returned in 0.00 seconds. There is a "CSV Export" link.

At the bottom right, it says Application Express 2.1 0.00 39 Copyright © 1999, 2006, Oracle. All rights reserved.

The Windows taskbar at the bottom shows various pinned icons and the date/time: 10:36 pm 27/4/2021.

Subquery

1. Find the patientname, city who lives in Bangladesh

```
SELECT patient_name, city
FROM patient
WHERE city IN (SELECT city FROM city where region='Bangladesh');
```

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The URL is 127.0.0.1:8080/apex/f?p=4500:1003:3144124480416600::NO:::. The query entered is:

```
SELECT patient_name, city
FROM patient
WHERE city IN (SELECT city FROM city where region='Bangladesh');
```

The results are displayed in a table:

PATIENT_NAME	CITY
Soumik Roy	Bandar
Mahdiya Arbina	Sirajgonj
Mammita	Golachipa

3 rows returned in 1.45 seconds. There is a CSV Export link.

At the bottom, the browser status bar shows: Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved.

2. Display the street_name along their street_number which is belong same region.

```
select street_name,street_number
from city
where street_number=(select max(street_number)
from city
where street_number<(select max(street_number)
from city ))
```

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command entered is:

```
select street_name,street_number
from city
where street_number=(select max(street_number)
from city
where street_number<(select max(street_number)
from city ))
```

The results section displays a single row:

STREET_NAME	STREET_NUMBER
College Road	175

1 rows returned in 0.25 seconds [CSV Export](#)

At the bottom, the Windows taskbar is visible with various icons.

3. Display the test_report_fee according highest fee of instrument

```
select test_report_fee,instrument_fee
from test_report
where test_report_fee=(select max(test_report_fee)
from test_report
where test_report_fee<(select max(test_report_fee)
from test_report ))
```

Screenshot:

User SCOTT

Home > SQL > SQL Commands

```
select test_report_fee,instrument_fee
from test_report
where test_report_fee=(select max(test_report_fee)
from test_report
where test_report_fee<(select max(test_report_fee)
from test_report))
```

Save Run

Results Explain Describe Saved SQL History

TEST_REPORT_FEE	INSTRUMENT_FEE
950	1000

1 rows returned in 0.28 seconds [CSV Export](#)

Application Express 2.1.0.0.39
Language: en-us
Lecture Notes (Week 6-13) [Compatibility Mode] - Word
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Type here to search

4. Find the patient_name tested date in 2021.

```
SELECT patient_id,patient_name, pgender
FROM patient
WHERE patient_id IN (
    SELECT patient_id FROM patient_info1
    WHERE ptesting_date > to_date('1-1-2021', 'dd-mm-yy')
);
```

Screenshot:

```

SELECT patient_id,patient_name, pgender
FROM patient
WHERE patient_id IN (
  SELECT patient_id FROM patient_info
  WHERE ptesting_date > to_date('1-1-2021', 'dd-mm-yy')
)

```

Results

PATIENT_ID	PATIENT_NAME	PGENDER
202110	Soumik Roy	Male
2021320	Mamita	Female

2 rows returned in 0.31 seconds [CSV Export](#)

View

Complex View 01:

Create View Technician_Info

As Select

Technician_Info1.Technician_Room_No,Technician_Info1.Technician_Name,Technician_Info2.Technician_Phone_No,Technician_Info2.Technician_Address

from Technician_Info1,Technician_Info2

where Technician_Info1.Technician_Phone_no=Technician_Info2.Technician_Phone_No;

Screenshot:

SQL Commands (1) Facebook

127.0.0.1:8080/apex/f?p=4500:1003:2628727744839128::NO::

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10

```
Create View Technician Info
As Select
Technician_Info1.Technician_Room_No,Technician_Info1.Technician_Name,Technician_Info2.Technician_Phone_No,Technicia
n_Info2.Technician_Address
from Technician_Info1,Technician_Info2
where Technician_Info1.Technician_Phone_no=Technician_Info2.Technician_Phone_No;
```

Results Explain Describe Saved SQL History

ORA-00955: name is already used by an existing object



Results Explain Describe Saved SQL History

TECHNICIAN_ROOM_NO	TECHNICIAN_NAME	TECHNICIAN_PHONE_NO	TECHNICIAN_ADDRESS
304	Mr. koushik	8801819471121	Comilla
103	Mrs. Asma	8801745210636	Basundhara
247	Mr. Ahmed	8801929298982	Uttara

3 rows returned in 0.00 seconds [CSV Export](#)

Complex View 02:

Create View Patient_info as select
Patient.Patient_Id,Patient.Patient_Name,Patient_Info1.Test_Report,Patient_Info1.Ptesting_Date
from Patient,Patient_Info1
where Patient.Patient_Id=Patient_Info1.Patient_Id;

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL command entered is:

```
Create View Patient_info as select
Patient.Patient_Id,Patient.Patient_Name,Patient_Info1.Test_Report,Patient_Info1.Ptesting_Date
from Patient,Patient_Info1
where Patient.Patient_Id=Patient_Info1.Patient_Id;
```

The results pane displays an error message: "ORA-00955: name is already used by an existing object".

Constraint Adding

alter table Patient add constraint pk31 foreign key(City) references City(City);

Screenshot:

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL command entered is:

```
alter table Patient add constraint pk31 foreign key(city) references city(city);
```

The results pane shows the output: "Table altered." and "0.00 seconds".

At the bottom, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is logged in as SCOTT. In the SQL editor, the following command is entered:

```
alter table Patient add constraint pk31 foreign key(City) references City(City);
```

An error message is displayed in a modal dialog:

ORA-02275: such a referential constraint already exists in the table

History:

SQL Commands

127.0.0.1:8080/apex/?p=4500:1003:1204178715490132:NO::

Results Explain Describe Saved SQL History

Find Go

Time	SQL	Schema
6 days ago	INSERT INTO Patient_Info2 VALUES (202117,'Mahdiya Arbina',+8801789437321,'Sirajgonj',29,'Female',100)	SCOTT1
6 days ago	INSERT INTO Patient_Info2 VALUES (202110,'Soumik Roy',+8801780363359,'Bandar',35,'Male',950);	SCOTT1
6 days ago	INSERT INTO Patient_Info1 VALUES (2021320,'Heart Dignosis Report','04-DEC-21');	SCOTT1
6 days ago	INSERT INTO Patient_Info1 VALUES (202117,'Psychological Report','03-APRIL-20');	SCOTT1
6 days ago	INSERT INTO Patient_Info1 VALUES (202110,'Surgical Pathology Report','20-JUN-21');	SCOTT1
6 days ago	INSERT INTO City VALUES ('Golachipa',286,'Amlapara','Bangladesh');	SCOTT1
6 days ago	INSERT INTO City VALUES ('Sirajgonj',112,'K.c Dhor road','Bangladesh');	SCOTT1
6 days ago	INSERT INTO City VALUES ('Bandar',175,'College Road','Bangladesh');	SCOTT1
6 days ago	INSERT INTO Patient VALUES (2021320,'Marmita',+8801780564632,'Golachipa',22,'Female');	SCOTT1
6 days ago	INSERT INTO Patient VALUES (202117,'Mahdiya Arbina',+8801789437321,'Sirajgonj',29,'Female');	SCOTT1
6 days ago	INSERT INTO Patient VALUES (202110,'Soumik Roy',+8801780363359,'Bandar',35,'Male');	SCOTT1
6 days ago	INSERT INTO Technician_Info2 VALUES (247,+8801929298982,'Uttara');	SCOTT1
6 days ago	INSERT INTO Technician_Info2 VALUES (103,+8801745216636,'Basundhara');	SCOTT1
6 days ago	INSERT INTO Technician_Info2 VALUES (304,+8801819471121,'Comilla');	SCOTT1
6 days ago	INSERT INTO Technician_Info1 VALUES (247,'Mr. Ahmed',+8801929298982,'M.Sc in Medicine',30,'Male');	SCOTT1

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SQL Commands

127.0.0.1:8080/apex/?p=4500:1003:1204178715490132:NO::

Results Explain Describe Saved SQL History

Find Go

Time	SQL	Schema
6 days ago	INSERT INTO Technician_Info1 VALUES (103,'Mrs. Asma',+8801745216636,'B.Sc in Dialysis',26,'Female')	SCOTT1
6 days ago	INSERT INTO Technician_Info1 VALUES (304,'Mr. koushik',+8801819471121,'B.Sc in medical laboratory t')	SCOTT1
6 days ago	CREATE TABLE Treatment_Room ('Treatment_room_no' number(10),primary key,'Treatment_room_Name' varchar2(25))	SCOTT1
6 days ago	CREATE TABLE Room_Name ('Room_Name' varchar2(10),primary key,'Routine_Inv' varchar2(50),Spe)	SCOTT1
6 days ago	CREATE TABLE Test_Report ('Test_Report_Fee' number(10),primary key,'Instrument_Fee' number(10));	SCOTT1
6 days ago	CREATE TABLE Patient_Info2('Patient_id' number(20),'Patient_Name' varchar2(50),'Patient_Phone_No' number(14))	SCOTT1
6 days ago	CREATE TABLE Patient_Info1('Patient_id' number(20),'Test_Report' varchar2(100),Ptesting_date date not null)	SCOTT1
6 days ago	CREATE TABLE City ('City' varchar2(50),primary key,'Street_Number' number(14),'Street_Name' varchar2(40))	SCOTT1
6 days ago	CREATE TABLE Patient ('Patient_id' number(20),'Patient_Name' varchar2(50),'Patient_Phone_No' number(14))	SCOTT1
6 days ago	CREATE TABLE Technician_Info2('Technician_Room_No' number(20),'Technician_Phone_No' number(14),Tech)	SCOTT1
6 days ago	CREATE TABLE Technician_Info1('Technician_Room_No' number(20),'Technician_Name' varchar2(50),Techni)	SCOTT1

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Application Express 2.1.0.0.39