

CASE STUDY

HOSPITAL MANAGEMENT

INTRODUCTION:

Hospital management relates to all aspects of a hospital; a coordination of all elements of a hospital. This may range from patient care to record keeping to inventory of medicines and cleanliness. To be able to become a hospital management professional, this requires taking care of each and every element of the hospital.

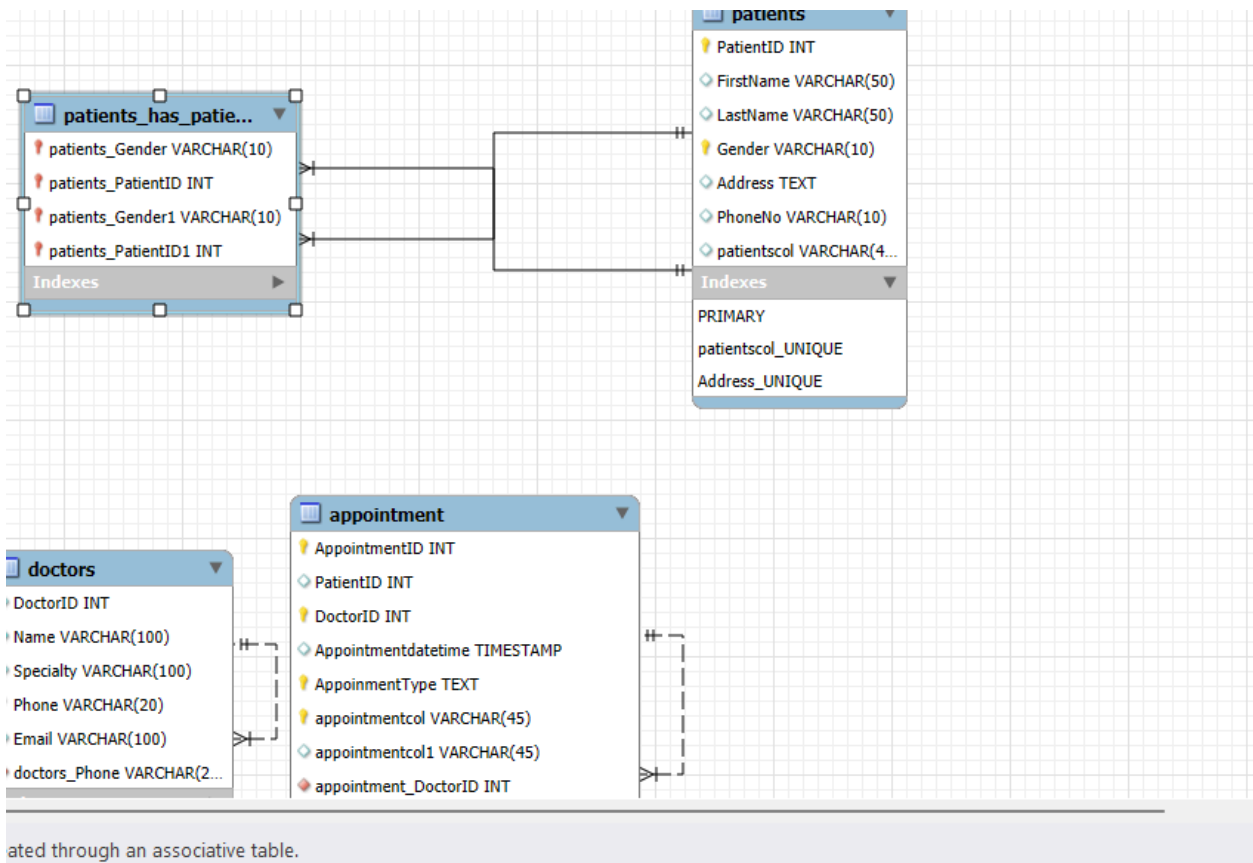
PROBLEM STATEMENT:

A problem statement is one or two sentences that identifies and summarizes a condition, problem, or issue that a quality improvement team is seeking to address. Typically included in a Project Charter, a problem statement provides a quality improvement team with an articulate expression of what they are setting out to achieve.

The are 4 key dataset to be used in the case study are:

- Patients
- Doctors
- Appointments
- Medications

ER DIAGRAM



DATASET:

create database hospital;

use hospital;

SELECT* FROM Patients;

SELECT* FROM Doctors;

SELECT* FROM Appointment;

SELECT* FROM Medications;

/*-----PATIENTS TABLE-----*/

**CREATE TABLE Patients (
PatientID INT,
FirstName VARCHAR(50),
LastName VARCHAR(50),
Gender VARCHAR(10),
Address TEXT,**

```
PhoneNo VARCHAR(10)
);
```

```
INSERT INTO Patients ( PatientID,FirstName,Lastname,Gender,Address,PhoneNo)
```

```
VALUES
```

```
(1, 'John','Doe', 'Male', '123 Main St, Anytown , USA', '945678349'),
(2, 'Jane','Smith', 'Female', '456 Elm St, Othertown, USA', '754368999'),
(3, 'Michael',' Johnson', 'Male', '789 Oak Ave, Anycity, USA', '876545678'),
(4, 'Albet', 'Johnson', 'Male','676 Main st,Gateway, USA','7898765348'),
(5, 'Androws', 'Doe', 'Male','657 Main st,Gateway, USA','985643679'),
(6, 'Jose','Phine', 'Female','456 Main st,Boradway,USA','897654323'),
(7, 'Amara', 'Anisa', 'Female','890 Main st,Gateway, USA','798754578'),
(8, 'Ingrid', 'Smith', 'Female','213 Main st,anyway, USA','897654679'),
(9, 'Diego', 'Hugo', 'Male','345 Main st,Othertown, USA','9876543219'),
(10, 'Bacchus', 'Marco', 'Male','246 Main st,VVCity, USA','7898765348');
```

```
/*-----DOCTORS TABLES-----*/
```

```
CREATE TABLE Doctors (
DoctorID INT,
Name VARCHAR(100) NOT NULL,
Specialty VARCHAR(100),
Phone VARCHAR(20),
Email VARCHAR(100)
);
```

```
INSERT INTO Doctors (DoctorID, Name, Specialty, Phone, Email)
```

```
VALUES
```

```
(1, 'Dr. Smith', 'Cardiology', '555-1111', 'dr.smith@example.com'),
(2, 'Dr. Johnson', 'Pediatrics', '555-2222', 'dr.johnson@example.com'),
(3, 'Dr. Williams', 'Orthopedics', '555-3333', 'dr.williams@example.com'),
(4,'Dr. Sandeep', 'Dermatologist', '555-4444', 'dr.sandeep@example.com'),
(5, 'Dr. Vinod', 'Neprologist', '555-6666', 'dr.vinod@example.com'),
(6, 'Dr.Joshi', 'Radiologist', '555-7777', 'dr.joshi@example.com'),
```

```
(7, 'Dr. Shamsheer', 'Anesthesiologist', '555-8888', 'dr.Shamsheer@example.com'),  
(8, 'Dr. Agashe', 'Dentist', '555-9999', 'dr.agashe@example.com'),  
(9, 'Dr. Elizabeth', 'pulmonologist', '555-4545', 'dr.elizabeth@example.com'),  
(10, 'Dr.Dixit ', 'Gynecologist', '555-8978', 'dr.dixit@example.com');
```

```
/*-----APPOINTMENT TABLE-----*/
```

```
CREATE TABLE Appointment (  
AppointmentID INT,  
PatientID INT,  
DoctorID INT,  
Appointmentdatetime TIMESTAMP,  
AppointmentType TEXT  
);
```

```
INSERT INTO Appointments (AppointmentID, PatientID, DoctorID, AppointmentDate,  
AppointmentType)  
VALUES  
(1, 1, 1, '2024-07-18 10:00:00', 'Consultation'),  
(2, 2, 2, '2024-07-19 14:30:00', 'Pediatric checkup'),  
(3, 3, 3, '2024-07-20 11:15:00', 'Orthopedic evaluation'),  
(4, 4, 6, '2024-07-21 11:45:00', 'Radiologic checkup'),  
(5, 5, 8, '2024-07-22 10:15:00', 'Dental checkup');
```

```
/*-----MEDICATIONS-----*/
```

```
CREATE TABLE Medications (  
MedicationID INT,  
Name VARCHAR(100),  
Description TEXT  
);
```

```

INSERT INTO Medications (MedicationID, Name, Description)
VALUES
(1, 'Paracetamol', 'Pain reliever and fever reducer'),
(2, 'Amoxicillin', 'Antibiotic used to treat bacterial infections'),
(3, 'Lisinopril', 'Medication for hypertension (high blood pressure)'),
(4, 'Coldix N', 'high cold and caught'),
(5, 'Atrovastation', 'to lower blood pressure'),
(6, 'Ibuprofen', 'dentel pain');

```

CASE STUDY QUESTIONS & ANSWERS:

1. Write aSQL query for select all patients.

```
SELECT * FROM Patients;
```

	PatientID	FirstName	LastName	Gender	Address	PhoneNo
	1	John	Doe	Male	123 Main St, Anytown , USA	945678349
	2	Jane	Smith	Female	456 Elm St, Othertown, USA	754368999
	3	Michael	Johnson	Male	789 Oak Ave, Anycity, USA	876545678
	4	Albet	Johnson	Male	676 Main st,Gateway, USA	7898765348
	5	Androws	Doe	Male	657 Main st,Gateway, USA	985643679

2. Retrieve all doctors whose Email ends with “com”.

```
SELECT *
```

```
FROM Doctors
```

```
WHERE Emails LIKE '%com';
```

DoctorID	Name	Specialty	Phone	Email
1	Dr. Smith	Cardiology	555-1111	dr.smith@example.com
2	Dr. Johnson	Pediatrics	555-2222	dr.johnson@example.com
3	Dr. Williams	Orthopedics	555-3333	dr.williams@example.com
4	Dr. Sandeep	Dermatologist	555-4444	dr.sandeep@example.com

3. Retrive Unique in Name of Madication.

```
SELECT DISTINCT Name
FROM Madication;
```

Name
Paracetamol
Amoxicillin
Lisinopril
Coldix N
Atrovastation

4. Retrieve the PatientID and full name from Patient5s.

```
SELECT DoctotID,
CONCAT(FirstName,' ',LastName)
FROM Patients;
```

concat(FirstName,"",LastName)	PatientID
JohnDoe	1
JaneSmith	2
Michael Johnson	3
AlbetJohnson	4
AndrowsDoe	5

5. Fetch the distinct PatientID using Appointment.

```
SELECT DISTINCT PatientID
FROM Appointment;
```

PatientID
1
2
3
4
5

6. Write the query to fetch the AppointmentID, DoctorID, Appointmentdatetime of the Appointment order by descending.

```
SELECT AppointmentID,
DoctorID,
Appointmentdatetime,

FROM Appointment

ORDER BY DoctorID;
```

AppointmentID	DoctorID	Appointmentdatetime
5	8	2024-07-22 10:15:00
4	6	2024-07-21 11:45:00
3	3	2024-07-20 11:14:30:00
2	2	2024-07-19 14:30:00
1	1	2024-07-18 10:00:00

7. Find the length of the phone in Doctor table.

```
SELECT LENGTH (Phone)
AS Phone_Num

FROM Doctors;
```

phone_num
8
8
8
8
8

8. List the firstName of the Patient occurs more the 0 in the Patient table.

```
SELECT FirstName  
  
FROM Patients  
  
GROUP BY FirstName  
  
HAVING COUNT(firstName)>0;
```

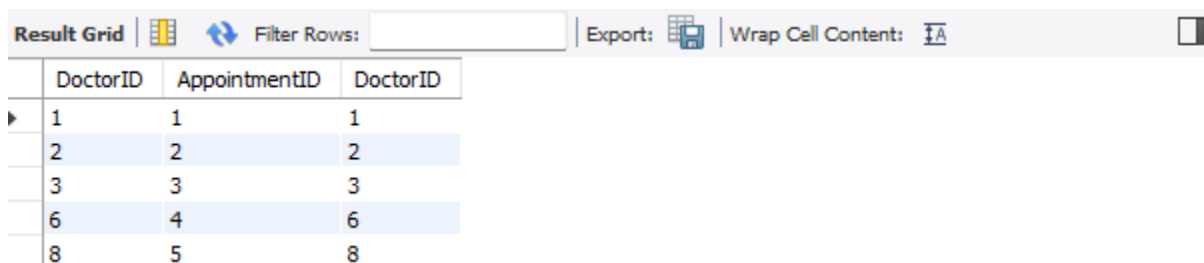


A screenshot of a database query result grid. The grid has a single column labeled 'FirstName'. It contains five rows with the following values: John, Jane, Michael, Albet, and Androws. The row for 'Jane' is highlighted in blue. To the right of the grid is a vertical toolbar with a 'Result Grid' button and a scroll arrow.

FirstName
John
Jane
Michael
Albet
Androws

9. Show AppointmentID,DoctorID,and DoctorID of each doctor order by AppointmentID ascending.

```
SELECT d.DoctorID,  
  
a.AppointmentID,  
  
a.DoctorId  
  
FROM Doctors d  
  
JOIN Appointment a ON d.DoctorID=a.DoctorID  
  
ORDER BY AppointmentID;
```



A screenshot of a database query result grid. The grid has three columns: 'DoctorID', 'AppointmentID', and 'DoctorID'. It contains five rows with the following values: (1, 1, 1), (2, 2, 2), (3, 3, 3), (6, 4, 6), and (8, 5, 8). The row for (2, 2, 2) is highlighted in blue. Above the grid is a toolbar with buttons for 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'.






DoctorID	AppointmentID	DoctorID
1	1	1
2	2	2
3	3	3
6	4	6
8	5	8

10. Get all the Medication who have deleted their from the market.

SELECT MedicationID

From Medication

WHERE MedicationID=Null;

Result Grid		 Filter Rows: <input type="text"/>	Export: 	Wrap Cell Content: 	
MedicationID					