



# HOSPITAL MANAGEMENT SYSTEM

**Project by- Mr. Sourabh Shiroti**

#### *Abstract*

The System greatly lowers manual effort and allows for a seamless flow of hospital activities by eliminating the possibility of errors when doing its activities.

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# HOSPITAL MANAGEMENT SYSTEM

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## 1. Description:

Hospitals are the most important part of our lives, trying to provide the best medical facilities to people suffering from various type of illness, which may be due to change in climate conditions, increased work-load, emotional trauma stress etc. It is very much difficult for the hospital to maintain its day-to-day activities and records manually. That is why a database is required to keep records of all type of activities of a hospital.

Hospitals interact with a lot of people in a day and there are various activities involved in day to day operations of hospitals, for example managing doctor schedules, managing patient diagnoses, managing medical histories of patients, etc. The aim of this project is to show how data related to these tasks can be made easier to manage using databases.

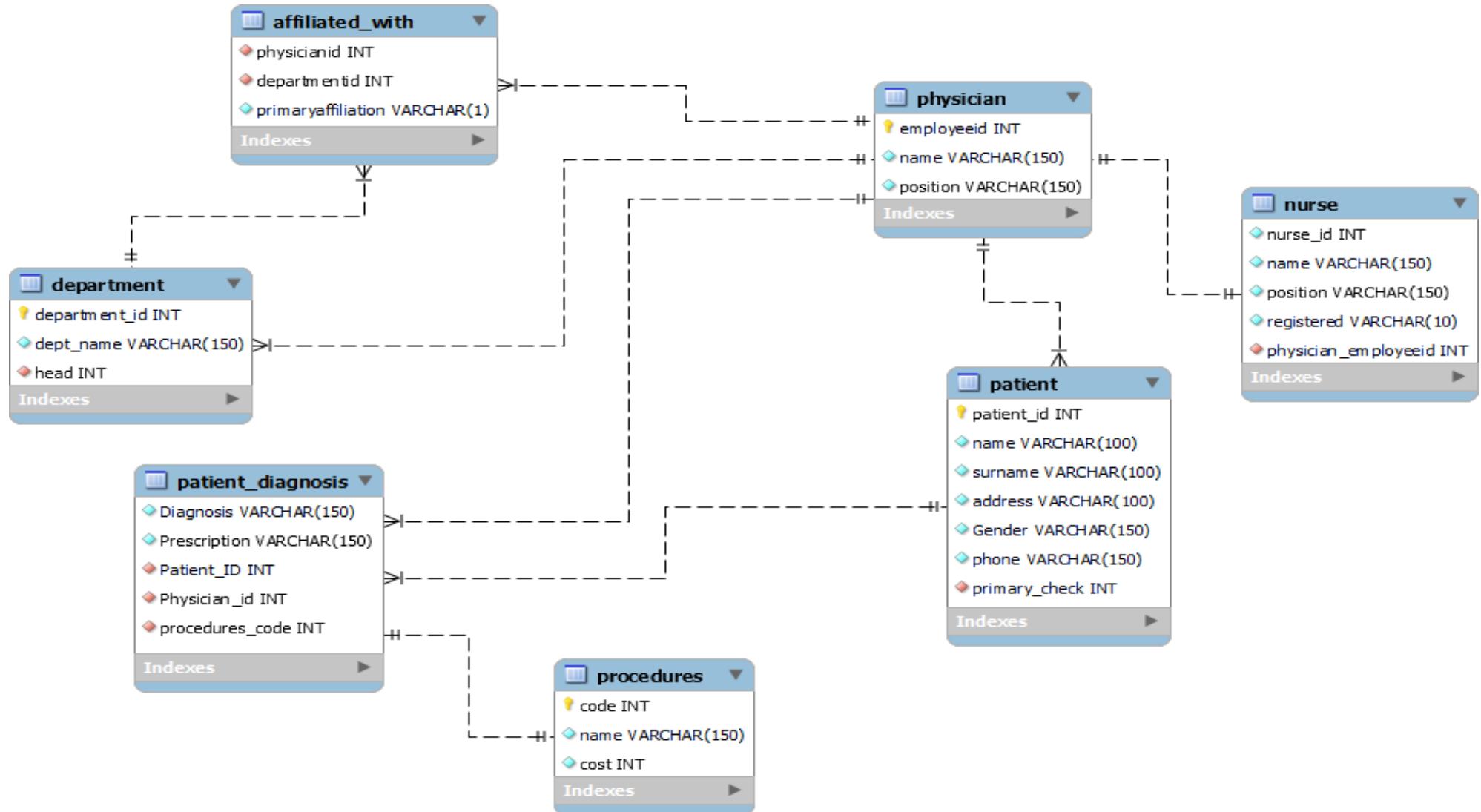
By storing information in a relational database, all the tasks relate to daily functioning of the hospital can be performed easily and much more efficiently. Hospital Database Management System (DBMS) is a comprehensive SQL project designed to streamline and optimize the management of hospital operations. This project aims to provide an efficient and user-friendly solution for storing, retrieving, and manipulating various types of healthcare-related data.

This database contains 7 tables:

1. Physician
2. Affiliated with
3. Department
4. Nurse
5. Patient
6. Patient Diagnosis
7. Procedures

How these tables/entities are related to each other is shown on next page through ER diagram, i.e., Entity Relationship Diagram.

## 2. ER-Diagram (Entity Relation -Diagram) for Hospital Management System:



### **3. Table Descriptions:**

#### **1. Physician:**

Field	Type	Null	Key	Default	Extra
Employeeid	Int	NO	PRI	NULL	
Name	Varchar (150)	NO		NULL	
Position	Varchar (150)	NO		NULL	

#### **2. Affiliated with:**

Field	Type	Null	Key	Default	Extra
physicianid	Int	NO	MUL	NULL	
departmentid	Int	NO	MUL	NULL	
primaryaffiliation	varchar(1)	NO		NULL	

#### **3. Department:**

Field	Type	Null	Key	Default	Extra
department_id	Int	NO	PRI	NULL	
dept_name	varchar(150)	NO		NULL	
Head	Int	NO	MUL	NULL	

#### **4. Nurse:**

Field	Type	Null	Key	Default	Extra
nurse_id	Int	NO		NULL	
Name	varchar(150)	NO		NULL	
Position	varchar(150)	NO		NULL	
registered	varchar(10)	NO		NULL	

## 5. Patient:

Field	Type	Null	Key	Default	Extra
patient_id	Int	NO	PRI	NULL	Auto increment
Name	varchar(100)	NO		NULL	
Surname	varchar(100)	NO		NULL	
Address	varchar(100)	NO		NULL	
Gender	varchar(150)	NO		NULL	
Phone	varchar(150)	NO		NULL	
primary_check	Int	NO	MUL	NULL	

## 6. Patient Diagnosis:

Field	Type	Null	Key	Default	Extra
Diagnosis	varchar(150)	NO		NULL	
Prescription	varchar(150)	NO		NULL	
Patient_ID	Int	NO	MUL	NULL	
Physician_id	Int	NO	MUL	NULL	

## 7. Procedures:

Field	Type	Null	Key	Default	Extra
Code	int	NO	PRI	NULL	
Name	varchar(150)	NO		NULL	
Cost	Int	NO		NULL	

## 4. Commands

- **Create Database**

```
CREATE DATABASE HOSPITAL_MANAGEMENT_SYSTEM;
```

- **Use Database**

```
USE HOSPITAL_MANAGEMENT_SYSTEM;
```

- **Create Table**

#Physician Table

```
CREATE TABLE Physician(  
employeeid INT PRIMARY KEY,  
name VARCHAR(150) NOT NULL,  
position VARCHAR(150) NOT NULL  
);
```

- **Insert Rows**

```
INSERT INTO Physician(employeeid,name,position)
```

```
VALUES
```

```
(1,'Dr.John Dorian','Staff Internist'),  
(2,'Dr.Elliot Reid','Attending Physician'),  
(3,'Dr.Christopher Turk','Surgical Attending Physician'),  
(4,'Dr.Percival Cox','Senior Attending Physician'),  
(5,'Dr.Bob Kelso','Head Chief of pulmonology'),  
(6,'Dr.Todd Quinlan','Surgical Attending Physician'),  
(7,'Dr.John Wen','Surgical Attending Physician'),  
(8,'Dr.Keith Dudemeister','Resident'),  
(9,'Dr.Molly Clock','Attending Psychiatrist'),  
(10,'Dr.Imani Harper','Senior Attending Nephrologist'),
```

- (11,'Dr.Berkley McKenzie','Resident'),
- (12,'Dr.Scott Vaughan','Senior Attending Gynecologist'),
- (13,'Dr.Nancy James','Cardiologist'),
- (14,'Dr.Jaxson Khan','Assistant Intensivist'),
- (15,'Dr.Mabel Leal','Senior ENT Surgeon'),
- (16,'Dr.Cedric Kelley','Junior Resident'),
- (17,'Dr.Rosalie Vaughn','Assistant Orthopedic Surgeon'),
- (18,'Dr.Remy Cook','Head chief of Gastroenterology'),
- (19,'Dr.Aaliyah Craig','Assistant Neuro Surgeon'),
- (20,'Dr.Odin Banks','Junior Intensivist'),
- (21,'Dr.Cali Vazquez','Head Chief of Orthopedics'),
- (22,'Dr.Jesse Craig','Head chief of neonatal'),
- (23,'Dr.Brynn Harrison','Staff Internist'),
- (24,'Dr.Gavin Curtis','Assistant Physiotherapist'),
- (25,'Dr.Alexis Estes','Senior Intensivist'),
- (26,'Dr.Estella Keller','Assistant Gastro Surgeon'),
- (27,'Dr.Nico Galvan','Head chief of physiotherapy'),
- (28,'Dr.Dallas Gutierrez','Senior attending Urologist'),
- (29,'Dr.Luca Flowers','Intensivist'),
- (30,'Dr.Ariya Bradley','Senior Attending Neurologist'),
- (31,'Dr.Richard Mitchell','Senior Resident'),
- (32,'Dr.Willow Farmer','Junior Resident'),
- (33,'Dr.Jamison Clayton','Assistant neonatologist'),
- (34,'Dr.Saige Juarez','Senior Resident'),
- (35,'Dr.Robert Suarez','Head Chief of Urology');

- **Create Table**

# Affiliated\_with

```
CREATE TABLE affiliated_with(  
physicianid INT NOT NULL,  
departmentid INT NOT NULL,  
primaryaffiliation VARCHAR(1) NOT NULL,  
FOREIGN KEY(physicianid) references Physician(employeeid),  
Foreign Key(departmentid) references department(department_id)  
);
```

- **Insert rows**

```
INSERT INTO affiliated_with(physicianid,departmentid,primaryaffiliation)
```

```
VALUES
```

(1,1,'t'),

(2,1,'t'),

(3,1,'f'),

(3,2,'t'),

(4,1,'t'),

(5,10,'t'),

(6,2,'t'),

(7,1,'f'),

(7,2,'t'),

(8,1,'t'),

(9,3,'t'),

(10,5,'t'),

(11,4,'f'),

(12,12,'t'),

(13,4,'t'),

(14,14,'f'),

(15,9,'t'),

(16,10,'f'),

(17,15,'t'),

(18,11,'t'),

(19,7,'t'),

(20,14,'f'),

(21,15,'t'),

(22,13,'t'),

(23,14,'f'),

(24,8,'t'),

(25,14,'t'),

(26,11,'f'),

(27,8,'t'),

(28,6,'t'),

(29,14,'t'),

(30,7,'t'),

(31,5,'f'),

(32,4,'f'),

(33,13,'t'),

(34,11,'t'),

(35,6,'t');

- **Create Table**

```
#Department Table

Create table department(
    department_id int Primary Key ,
    dept_name VARCHAR(150) NOT NULL,
    head int not null,
    Foreign Key(head) references Physician(employeeid)
);
```

- **Insert Rows**

```
Insert into department(department_id,dept_name,head)
```

Values

```
(1,'General Medicine',4),
```

```
(2,'Surgery',7),
```

```
(3,'Psychiatry',9),
```

```
(4,'Cardiology',13),
```

```
(5,'Nephrology',10),
```

```
(6,'Urology',35),
```

```
(7,'Neurology',30),
```

```
(8,'Physiotherapy',27),
```

```
(9,'ENT',15),
```

```
(10,'Pulmonology',5),
```

```
(11,'Gastroenterology',18),
```

```
(12,'Gynecology',12),
```

```
(13,'Neonatal',22),
```

```
(14,'Critical care',25),
```

```
(15,'Orthopedics',21);
```

- **Create Table**

# Nurse Table

```
CREATE TABLE Nurse(  
nurse_id INT NOT NULL ,  
name VARCHAR(150) NOT NULL,  
position VARCHAR(150) NOT NULL,  
registered VARCHAR(10) NOT NULL  
);
```

- **Insert Rows**

```
INSERT INTO Nurse(nurse_id,name,position,registered)
```

VALUES

```
(1,'Carla Espinosa','Head Nurse','Yes'),  
(2,'Laverne Roberts','Nurse','Yes'),  
(3,'Paul Flowers','Nurse','No'),  
(4,'Anna Rubel','Team Leader','No'),  
(5,'Teresa Buttler','Sister Ir','Yes'),  
(6,'Kathie Mathews','Nurse','Yes'),  
(7,'Rose Hughes','Head Nurse','Yes'),  
(8,'Carolina Gomez','Nurse','No'),  
(9,'Danna Martinez','Sister IR','No'),  
(10,'Olive Peterson','Head Nurse','Yes'),  
(11,'Amelia Murray','Team Leader','Yes'),  
(12,'Helena Martinez','Nurse','No'),  
(13,'Olivia Patterson','NS Supdt','Yes'),  
(14,'Diana Bell','Nurse','No'),  
(15,'Bella Simmons','Nurse','Yes'),  
(16,'Jaqueline Olsen','Nurse','No'),
```

(17,'Cali McBride','Team Leader','Yes'),  
(18,'Madilynn Velazquez','Nurse','No'),  
(19,'Kelsie Avery','Sister Ir','Yes'),  
(20,'Lailah McIntosh','Nurse','Yes'),  
(21,'Jamiya Villarreal','Head Nurse','Yes'),  
(22,'Harmony Ramsey','Nurse','No'),  
(23,'Kiley Nguyen','Sister Ir','Yes'),  
(24,'Mercedec Nguyen','Team Leader','Yes'),  
(25,'Averie Kennedy','Nurse','No'),  
(26,'Kinley Fernandez','Nurse','No'),  
(27,'Nia Knox','Head Nurse','No'),  
(28,'Raven Singleton','Nurse','Yes'),  
(29,'Stephanie Collins','Team Leader','Yes'),  
(30,'Gisselle Gray','Nurse','No'),  
(31,'Liliana Pace','Head Nurse','Yes'),  
(32,'Adelaide Jimenez','Nurse','Yes'),  
(33,'Aryana Harding','Sister Ir','No');

- **Create Table**

# Patient Table

```
CREATE TABLE Patient(  
    patient_id INT Primary key auto_increment,  
    name VARCHAR(100) NOT NULL,  
    surname VARCHAR(100) NOT NULL,  
    address VARCHAR(100) NOT NULL,  
    Gender VARCHAR(150) NOT NULL,  
    phone VARCHAR(150) NOT NULL,  
    primary_check INT NOT NULL,  
    FOREIGN KEY(PRIMARY_CHECK) REFERENCES Physician(employeeid)  
);
```

- **Insert Rows**

```
INSERT INTO Patient(Patient_id,name,surname,address,Gender,phone,primary_check)  
VALUES
```

```
(01,'John','Smith','42 Foobar Lane','Male','555-0256-896',2),  
(02,'Grace','Ritchie','37 Snafu Drive','Female','555-0512-657',2),  
(03,'Remo','Xavier','101 Omgbqq Street','Male','555-1204-345',9),  
(04,'Dennis','Doe','1100 Foobaz Avenue','Male','555-2048-345',17),  
(05,'John','Smith','123 Main St','Male','555-123-4567',24),  
(06,'Emily','Johnson','56 Elm St','Female','555-234-5678',7),  
(07,'Michael','Williams','789 Oak St','Male','555-345-6789',13),  
(08,'Sarah','Brown','101 Pine St','Female','555-456-7890',25),  
(09,'David','Jones','234 Maple St','Male','555-567-8901',28),  
(10,'Jessica','Davis','567 Cedar St','Female','555-678-9012',19),  
(11,'Christopher','Wilson','890 Birch St','Male','555-789-0123',5),
```

(12,'Ashley','Taylor','111 Walnut St','Female','555-890-1234',33),  
(13,'Matthew','Martinez','222 Cherry St','Male','555-901-2345',3),  
(14,'Samantha','Anderson','333 Spruce St','Female','555-012-3456',18),  
(15,'Daniel','Garcia','444 Sycamore St','Male','555-123-4567',6),  
(16,'Amanda','Hernandez','555 Pineapple St','Female','555-234-5678',19),  
(17,'James','Lopez','666 Banana St','Male','555-345-6789',15),  
(18,'Jennifer','Gonzalez','777 Orange St','Female','555-456-7890',26),  
(19,'Joshua','Perez','888 Grape St','Male','555-567-8901',6),  
(20,'Brittany','Torres','999 Lemon St','Female','555-678-9012',20),  
(21,'Ryan','Flores','121 Apple St','Male','555-789-0123',28),  
(22,'Lauren','Ramirez','232 Pear St','Female','555-890-1234',6),  
(23,'Andrew','Cruz','343 Peach St','Male','555-901-2345',25),  
(24,'Nicole','Scott','454 Plum St','Female','555-012-3456',19),  
(25,'Justin','Morales','565 Watermelon St','Male','555-123-4567',24),  
(26,'Stephanie','Reed','676 Blueberry St','Female','555-234-5678',28),  
(27,'Brandon','Nguyen','787 Raspberry St','Male','555-345-6789',27),  
(28,'Megan','Hill','898 Kiwi St','Female','555-456-7890',6),  
(29,'Austin','Green','909 Pine St','Male','555-567-8901',33),  
(30,'Kayla','Adams','343 Cherry St','Female','555-678-9012',10),  
(31,'Tyler','Baker','454 Oak St','Male','555-789-0123',5),  
(32,'Haley','Campbell','565 Elm St','Female','555-890-1234',18),  
(33,'Dylan','Ward','676 Maple St','Male','555-901-2345',2),  
(34,'Victoria','Cox','787 Cedar St','Female','555-012-3456',13),  
(35,'Ethan','Rivera','898 Birch St','Male','555-123-4567',20),  
(36,'Hannah','Long','909 Walnut St','Female','555-234-5678',21),  
(37,'Noah','Diaz','343 Pine St','Male','555-345-6789',9),  
(38,'Olivia','King','454 Cherry St','Female','555-456-7890',30),  
(39,'Mason','Powell','565 Oak St','Male','555-567-8901',15);

- **Create Table**

```
# Patient_Diagnosis Table  
  
CREATE TABLE PATIENT_DIAGNOSIS(  
Diagnosis VARCHAR(150) NOT NULL,  
Prescription VARCHAR(150) NOT NULL,  
Patient_ID INT NOT NULL,  
Physician_id INT NOT NULL,  
FOREIGN KEY(Patient_id) references Patient(Patient_id),  
FOREIGN KEY(Physician_id) references Physician(employeeid)  
);
```

- **Insert Rows**

```
INSERT INTO  
PATIENT_DIAGNOSIS(Diagnosis,Prescription,Patient_ID,Physician_id)  
VALUES  
('Hypertension','Lisinopril',1,2),  
('Arthritis','Naproxen & Aspirin',4,17),  
('Anxiety Disorder','Fluoxetine',3,9),  
('Muscular Dystrophy','Corticosteroids',5,24),  
('Asthma','Albuterol',2,2),  
('IgA Nephropathy','Budesonide',30,10),  
('Chronic Pain','Tramadol',6,7),  
('Acoustic neuroma','Radiation therapy',7,13),  
('Septic Shock','Corticosteroids:Hydrocortisone',8,25),  
('Kidney Stones','Ibuprofen, Acetaminophen',9,28),  
('Parkinsons Disease,Pramipexole','Ropinirole',10,19),  
('Chronic Obstructive Pulmonary Disease (COPD)','Fluticasone,Budesonide',11,5),  
('Neonatal Jaundice','Phototherapy',12,33),
```

('Chronic Pain','Tramadol',13,3),  
(('Gallstones','Cholecystectomy',14,18),  
(('Type 1 Diabetes','Insulin',15,6),  
(('Migraine','Triptans',16,19),  
(('Tonsillitis','Penicillin VK',17,15),  
(('Inflammatory Bowel Disease','Mesalamine',18,26),  
(('Coronary Artery Disease','Aspirin',19,6),  
(('Chronic Obstructive Pulmonary Disease (COPD)'),('Tiotropium',20,20)),  
(('Urinary Tract Infection (UTI)'),('Nitrofurantoin',21,28),  
(('Attention Deficit Disorder','Dextroamphetamine',22,6),  
(('Traumatic Brain Injury (TBI)'),('Propofol,Midazolam',23,25),  
(('Neuropathic Pain','Amitriptyline',24,19),  
(('Chronic Obstructive Pulmonary Disease','Breathing exercises',25,24),  
(('Overactive Bladder','Oxybutynin',26,28),  
(('Sports Injuries','muscle relaxants',27,27),  
(('Psoriasis','Methotrexate',28,6),  
(('Respiratory Distress Syndrome','Beractant',29,33),  
(('Coronavirus Disease 2019 (COVID-19)'),('Remdesivir',31,5)),  
(('Chronic Gastritis','Pantoprazole',32,18),  
(('Generalized Anxiety Disorder (GAD)'),('Buspirone',33,2),  
(('Sinusitis','Acetaminophen',34,13),  
(('Burn Injuries','Acetaminophen',35,20),  
(('Osteoporosis','Calcitonin',36,21),  
(('Depression','Fluoxetine',37,9),  
(('Myasthenia Gravis','Pyridostigmine',38,30),  
(('Otitis Media','Amoxicillin',39,15));

- **Create Table**

#Procedure Table

```
CREATE TABLE procedures(  
code INT PRIMARY KEY,  
name VARCHAR(150) NOT NULL,  
cost INT NOT NULL  
);
```

- **Insert Rows**

```
INSERT INTO procedures(code,name,cost)
```

VALUES

```
(1,'X-ray-Chest',1000),  
(2,'X-ray-Abdomen',1200),  
(3,'X-ray-Skull',900),  
(4,'X-ray-Spine',1500),  
(5,'MRI-Brain',5000),  
(6,'MRI-Spine',6000),  
(7,'CT Scan-Abdomen',3000),  
(8,'CT Scan-Pelvis',3500),  
(9,'Ultrasound-Abdomen',700),  
(10,'Ultrasound-Obstetric',2500),  
(11,'Mammogram',1200),  
(12,'Bone Density Scan (DEXA)',1800),  
(13,'PET-CT Scan',5000),  
(14,'Fluoroscopy - Upper GI Series',7000),  
(15,'Fluoroscopy - Barium Enema',4500),  
(16,'Nuclear Medicine - Thyroid Scan',450),  
(17,'Angiography - Cerebral',800),
```

(18,'Interventional Radiology - Biopsy',700),

(19,'X-ray-Extremities',300),

(20,'MRI-Knee',4000);

- **Data Retrieval Using Select Statement**

SELECT \* FROM physician;

	employeeid	name	position
▶	1	Dr.John Dorian	Staff Internist
	2	Dr.Elliott Reid	Attending Physician
	3	Dr.Christopher Turk	Surgical Attending Physician
	4	Dr.Percival Cox	Senior Attending Physician
	5	Dr.Bob Kelso	Head Chief of pulmonology
	6	Dr.Todd Quinlan	Surgical Attending Physician
	7	Dr.John Wen	Surgical Attending Physician
	8	Dr.Keith Dudemeister	Resident
	9	Dr.Molly Clock	Attending Psychiatrist
	10	Dr.Imani Harper	Senior Attending Nephrologist
	11	Dr.Berkley McKenzie	Resident
	12	Dr.Scott Vaughan	Senior Attending Gynecologist
	13	Dr.Nancy James	Cardiologist
	14	Dr.Jaxson Khan	Assistant Intensivist
	15	Dr.Mabel Leal	Senior ENT Surgeon
	16	Dr.Cedric Kelley	Junior Resident
	17	Dr.Rosalie Vaughn	Assistant Orthopedic Surgeon
	18	Dr.Remy Cook	Head chief of Gastroenterology
	19	Dr.Aaliyah Craig	Assistant Neuro Surgeon
	20	Dr.Odin Banks	Junior Intensivist
	21	Dr.Cali Vazquez	Head Chief of Orthopedics
	22	Dr.Jesse Craig	Head chief of neonatal

```
SELECT * FROM affiliated_with;
```

	physicianid	departmentid	primaryaffiliation
▶	1	1	t
	2	1	t
	3	1	f
	3	2	t
	4	1	t
	5	10	t
	6	2	t
	7	1	f
	7	2	t
	8	1	t
	9	3	t
	10	5	t
	11	4	f
	12	12	t
	13	4	t
	14	14	f
	15	9	t
	16	10	f
	17	15	t
	18	11	t
	19	7	t
	20	14	f
	21	15	t
	22	13	t
	23	14	f
	24	o	*

```
SELECT * FROM department;
```

	department_id	dept_name	head
▶	1	General Medicine	4
	2	Surgery	7
	3	Psychiatry	9
	4	Cardiology	13
	5	Nephrology	10
	6	Urology	35
	7	Neurology	30
	8	Physiotherapy	27
	9	ENT	15
	10	Pulmonology	5
	11	Gastroenterology	18
	12	Gynecology	12
	13	Neonatal	22
	14	Critical care	25
	15	Orthopedics	21

SELECT \* FROM nurse;

	nurse_id	name	position	registered
▶	1	Carla Espinosa	Head Nurse	Yes
	2	Laverne Roberts	Nurse	Yes
	3	Paul Flowers	Nurse	No
	4	Anna Rubel	Team Leader	No
	5	Teresa Buttler	Sister Ir	Yes
	6	Katthie Mathews	Nurse	Yes
	7	Rose Hughes	Head Nurse	Yes
	8	Carolina Gomez	Nurse	No
	9	Danna Martinez	Sister IR	No
	10	Olive Peterson	Head Nurse	Yes
	11	Amelia Murray	Team Leader	Yes
	12	Helena Martinez	Nurse	No
	13	Olivia Patterson	NS Supdt	Yes
	14	Diana Bell	Nurse	No
	15	Bella Simmons	Nurse	Yes
	16	Jaqueline Olsen	Nurse	No
	17	Cali McBride	Team Leader	Yes
	18	Madilynn Velazq...	Nurse	No
	19	Kelsie Avery	Sister Ir	Yes
	20	Lailah McIntosh	Nurse	Yes
	21	Jamiya Villarreal	Head Nurse	Yes
	22	Harmony Ramsey	Nurse	No
	23	Kiley Nguyen	Sister Ir	Yes
	24	Mercedec Nguyen	Team Leader	Yes
	25	Averie Kennedy	Nurse	No
nc	67	Vincent Esparanza	Nurse	No

nurse 67 ×

SELECT \* FROM patient;

	patient_id	name	surname	address	Gender	phone	primary_check
▶	1	John	Smith	42 Foobar Lane	Male	555-0256-896	2
	2	Grace	Ritchie	37 Snafu Drive	Female	555-0512-657	2
	3	Remo	Xavier	101 Omgbbq Street	Male	555-1204-345	9
	4	Dennis	Doe	1100 Foobaz Avenue	Male	555-2048-345	17
	5	John	Smith	123 Main St	Male	555-123-4567	24
	6	Emily	Johnson	56 Elm St	Female	555-234-5678	7
	7	Michael	Williams	789 Oak St	Male	555-345-6789	13
	8	Sarah	Brown	101 Pine St	Female	555-456-7890	25
	9	David	Jones	234 Maple St	Male	555-567-8901	28
	10	Jessica	Davis	567 Cedar St	Female	555-678-9012	19
	11	Christ...	Wilson	890 Birch St	Male	555-789-0123	5
	12	Ashley	Taylor	111 Walnut St	Female	555-890-1234	33
	13	Matthew	Martinez	222 Cherry St	Male	555-901-2345	3
	14	Saman...	Anderson	333 Spruce St	Female	555-012-3456	18
	15	Daniel	Garcia	444 Sycamore St	Male	555-123-4567	6
	16	Amanda	Hernan...	555 Pineapple St	Female	555-234-5678	19
	17	James	Lopez	666 Banana St	Male	555-345-6789	15
	18	Jennifer	Gonzalez	777 Orange St	Female	555-456-7890	26
	19	Joshua	Perez	888 Grape St	Male	555-567-8901	6
	20	Brittany	Torres	999 Lemon St	Female	555-678-9012	20
	21	Ryan	Flores	121 Apple St	Male	555-789-0123	28
	22	Lauren	Ramirez	232 Pear St	Female	555-890-1234	6
	23	Andrew	Cruz	343 Peach St	Male	555-901-2345	25
	24	Nicole	Scott	454 Plum St	Female	555-012-3456	19
	25	Justin	Morales	565 Watermelon St	Male	555-123-4567	24
	76	Stonk	Dood	678 Blahblah St	Female	555-777-8870	70

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SELECT \* FROM patient\_diagnosis;

	Diagnosis	Prescription	Patient_ID	Physician_id
	Acoustic neuroma	Radiation therapy	7	13
▶	Anxiety Disorder	Fluoxetine	3	9
	Arthritis	Naproxen & Aspirin	4	17
	Asthma	Albuterol	2	2
	Attention Deficit Disorder	Dextroamphetamine	22	6
	Burn Injuries	Acetaminophen	35	20
	Chronic Gastritis	Pantoprazole	32	18
	Chronic Obstructive Pulmonary Disease	Breathing exercises	25	24
	Chronic Obstructive Pulmonary Disease (COPD)	Fluticasone,Budesonide	11	5
	Chronic Obstructive Pulmonary Disease (COPD)	Tiotropium	20	20
	Chronic Pain	Tramadol	6	7
	Chronic Pain	Tramadol	13	3
	Coronary Artery Disease	Aspirin	19	6
	Coronavirus Disease 2019 (COVID-191)	Remdesivir	31	5
	Depression	Fluoxetine	37	9
	Gallstones	Cholecystectomy	14	18
	Generalized Anxiety Disorder (GAD)	Buspirone	33	2

patient\_diagnosis 69 ×

SELECT \* FROM procedures;

	code	name	cost
▶	1	X-ray-Chest	1000
	2	X-ray-Abdomen	1200
	3	X-ray-Skull	900
	4	X-ray-Spine	1500
	5	MRI-Brain	5000
	6	MRI-Spine	6000
	7	CT Scan-Abdomen	3000
	8	CT Scan-Pelvis	3500
	9	Ultrasound-Abdomen	700
	10	Ultrasound-Obstetric	2500
	11	Mammogram	1200
	12	Bone Density Scan (DEXA)	1800
	13	PET-CT Scan	5000
	14	Fluoroscopy - Upper GI Series	7000
	15	Fluoroscopy - Barium Enema	4500
	16	Nuclear Medicine - Thyroid Scan	450
	17	Angiography - Cerebral	800
	18	Interventional Radiology - Biopsy	700
	19	X-ray-Extremities	300
	20	MRI-Knee	4000
procedures 70 ×			

- **Describe Statement**

DESC physician;

DESC affiliated\_with;

DESC department;

DESC nurse;

DESC patient;

DESC patient\_diagnosis;

DESC procedures;

## 5. SQL Query

#1. Write a query in SQL to obtain the name of the physician in alphabetical order.

```
SELECT NAME AS PHYSICIAN_NAME  
FROM PHYSICIAN  
ORDER BY NAME;
```

PHYSICIAN_NAME
Dr.Aaliyah Craig
Dr.Alexis Estes
Dr.Ariya Bradley
Dr.Berkley McKenzie
Dr.Bob Kelso
Dr.Brynn Harrison
Dr.Cali Vazquez
Dr.Cedric Kelley
Dr.Christopher Turk
Dr.Dallas Gutierrez
Dr.Elliot Reid
Dr.Estella Keller
Dr.Gavin Curtis
Dr.Imani Harper
Dr.Jamison Clayton
Dr.Jaxson Khan
Dr.Jesse Craig
Dr.John Dorian
Dr.John Wen
Dr.Keith Dudemeister
Dr.Luca Flowers
Dr.Mabel Leal
Dr.Molly Clock
Dr.Nancy James
Dr.Nico Galvan
Dr.Odin Banks
Dr.Percival Cox
Dr.Remy Cook
Dr.Richard Mitchell
Dr.Robert Suarez
Dr.Rosalie Vaughn
Dr.Saige Juarez
Dr.Scott Vaughan
Dr.Todd Quinlan
Dr.Willow Farmer

#2. Write a query in SQL to obtain the fullname of the patients whose gender is male.

```
SELECT CONCAT (NAME, '', SURNAME) AS Patients_Fullname,GENDER  
FROM PATIENT  
WHERE GENDER = 'MALE';
```

Patients_Fullname	GENDER
John Smith	Male
Remo Xavier	Male
Dennis Doe	Male
John Smith	Male
Michael Williams	Male
David Jones	Male
Christopher Wilson	Male
Matthew Martinez	Male
Daniel Garcia	Male
James Lopez	Male
Joshua Perez	Male
Ryan Flores	Male
Andrew Cruz	Male
Justin Morales	Male
Brandon Nguyen	Male
Austin Green	Male
Tyler Baker	Male
Dylan Ward	Male
Ethan Rivera	Male
Noah Diaz	Male
Mason Powell	Male

#3. Write a query in SQL to find the name of the nurse who are the head of their department and are registered.

```
SELECT * FROM NURSE  
WHERE POSITION ='Head Nurse' AND REGISTERED = "YES";
```

	nurse_id	name	position	registered
▶	1	Carla Espinosa	Head Nurse	Yes
	7	Rose Hughes	Head Nurse	Yes
	10	Olive Peterson	Head Nurse	Yes
	21	Jamiya Villarreal	Head Nurse	Yes
	31	Liliana Pace	Head Nurse	Yes

#4. Write a query in SQL to find the name of the nurse who are Team Leader or not registered.

```
SELECT NAME, POSITION, REGISTERED  
FROM NURSE  
WHERE Position = 'Team Leader' OR REGISTERED = "NO";
```

	NAME	POSITION	REGISTERED
▶	Paul Flowers	Nurse	No
	Anna Rubel	Team Leader	No
	Carolina Gomez	Nurse	No
	Danna Martinez	Sister IR	No
	Amelia Murray	Team Leader	Yes
	Helena Martinez	Nurse	No
	Diana Bell	Nurse	No
	Jaqueline Olsen	Nurse	No
	Cali McBride	Team Leader	Yes
	Madilynn Velazquez	Nurse	No
	Harmony Ramsey	Nurse	No
	Meredec Nguyen	Team Leader	Yes
	Averie Kennedy	Nurse	No
	Kinley Fernandez	Nurse	No
	Nia Knox	Head Nurse	No
	Stephanie Collins	Team Leader	Yes
	Gisselle Gray	Nurse	No
	Aryana Harding	Sister Ir	No

#5. Write a query to obtain the avg cost of all the medical procedures.

```
SELECT AVG(COST)  
FROM PROCEDURES;
```

	Average_cost
▶	2552.5000

#6 Write a query to obtain name and cost of the procedure whose cost is greater than 2000.

SELECT NAME as Procedure\_Name,COST as Procedure\_Cost

FROM PROCEDURES

WHERE NOT COST < 2000;

	Procedure_Name	Procedure_Cost
▶	MRI-Brain	5000
	MRI-Spine	6000
	CT Scan-Abdomen	3000
	CT Scan-Pelvis	3500
	Ultrasound-Obstetric	2500
	PET-CT Scan	5000
	Fluoroscopy - Upper GI Series	7000
	Fluoroscopy - Barium Enema	4500
	MRI-Knee	4000

#7. Write a query to update the name of the patient to Robert Fernandez having patientid as 5.

UPDATE PATIENT

SET NAME = 'Robert',SURNAME = 'Fernandez'

WHERE PATIENT\_ID = 5;

SELECT \* FROM PATIENT;

	patient_id	name	surname	address	Gender	primary_check
▶	1	John	Smith	42 Foobar Lane	Male	2
	2	Grace	Ritchie	37 Snafu Drive	Female	2
	3	Remo	Xavier	101 Omgbq Street	Male	9
	4	Dennis	Doe	1100 Foobaz Avenue	Male	17
	5	Robert	Fernandez	123 Main St	Male	24
	6	Emily	Johnson	56 Elm St	Female	7
	7	Michael	Williams	789 Oak St	Male	13
	8	Sarah	Brown	101 Pine St	Female	25

#8. Write a query to drop phone column from patient table.

ALTER TABLE Patient

DROP phone;

SELECT \* FROM PATIENT;

	patient_id	name	surname	address	Gender	primary_check
▶	1	John	Smith	42 Foobar Lane	Male	2
	2	Grace	Ritchie	37 Snafu Drive	Female	2
	3	Remo	Xavier	101 Omgbbq Street	Male	9
	4	Dennis	Doe	1100 Foobaz Avenue	Male	17
	5	Robert	Fernandez	123 Main St	Male	24
	6	Emilv	Inhnson	56 Flm St	Female	7

#9. Second maximum cost of medical procedure

SELECT NAME,MAX(COST) as Procedure\_cost

FROM PROCEDURES

GROUP BY name

ORDER BY Procedure\_cost DESC

LIMIT 1,1;

	NAME	Procedure_cost
▶	MRI-Spine	6000

## #Like Operator

#10. Write a query in SQL to obtain the name of the patients starting with letter A.

```
SELECT CONCAT(NAME, ' ', SURNAME) AS FULL_NAME, GENDER  
FROM PATIENT  
WHERE CONCAT(NAME, ' ', SURNAME) LIKE 'A%';
```

	FULL_NAME	GENDER
▶	Ashley Taylor	Female
	Amanda Hernandez	Female
	Andrew Cruz	Male
	Austin Green	Male

#11. Write a query in SQL to obtain the name of the patients whose third letter is M.

```
SELECT CONCAT(NAME, ' ', SURNAME) AS FULL_NAME, GENDER  
FROM PATIENT  
WHERE CONCAT(NAME, ' ', SURNAME) LIKE '__M%';
```

	FULL_NAME	GENDER
▶	Remo Xavier	Male
	Samantha Anderson	Female
	James Lopez	Male

#12. Write a query in SQL to obtain the name of the patients whose name start with letter J and ends with Z.

```
SELECT CONCAT(NAME, ' ', SURNAME) AS FULL_NAME, GENDER  
FROM PATIENT  
WHERE CONCAT(NAME, ' ', SURNAME) LIKE 'J%Z';
```

	FULL_NAME	GENDER
▶	James Lopez	Male
	Jennifer Gonzalez	Female
	Joshua Perez	Male

#13. Write a query to obtain patient details having patient\_id 11 to 20.

```
SELECT *
FROM PATIENT
LIMIT 10,10;
```

	patient_id	name	surname	address	Gender	primary_check
▶	11	Christopher	Wilson	890 Birch St	Male	5
	12	Ashley	Taylor	111 Walnut St	Female	33
	13	Matthew	Martinez	222 Cherry St	Male	3
	14	Samantha	Anderson	333 Spruce St	Female	18
	15	Daniel	Garcia	444 Sycamore St	Male	6
	16	Amanda	Hernandez	555 Pineapple St	Female	19
	17	James	Lopez	666 Banana St	Male	15
	18	Jennifer	Gonzalez	777 Orange St	Female	26
	19	Joshua	Perez	888 Grape St	Male	6
*	20	Brittany	Torres	999 Lemon St	Female	20
*	NUL	NUL	NUL	NUL	NUL	NUL

## #JOINS

#14. Write a query in SQL to obtain the name of the physicians who are the head of each department

```
Select p.name as Doctor_name,d.dept_name
```

```
from physician p
```

```
inner join department d
```

```
on p.employeeid = d.head;
```

	Doctor_name	dept_name
▶	Dr.Percival Cox	General Medicine
	Dr.John Wen	Surgery
	Dr.Molly Clock	Psychiatry
	Dr.Nancy James	Cardiology
	Dr.Imani Harper	Nephrology
	Dr.Robert Suarez	Urology
	Dr.Ariya Bradley	Neurology
	Dr.Nico Galvan	Physiotherapy
	Dr.Mabel Leal	ENT
	Dr.Bob Kelso	Pulmonology
	Dr.Remy Cook	Gastroenterology
	Dr.Scott Vaughan	Gynecology
	Dr.Jesse Craig	Neonatal
	Dr.Alexis Estes	Critical care
	Dr.Cali Vazquez	Orthopedics

#15. Write a query in SQL to obtain the name of the patients with their physicians by whom they got their preliminary treatment

```
SELECT CONCAT(p.name, ',', p.SURNAME) as PATIENT_NAME, ph.NAME as  
PHY_WHO_DID_PRI_TREATMENT  
FROM PATIENT p  
LEFT JOIN PHYSICIAN ph  
ON p.PRIMARY_CHECK = ph.EMPLOYEEID;
```

PATIENT_NAME	PHY_WHO_DID_PRI_TREATMENT
John Smith	Dr.Elliot Reid
Grace Ritchie	Dr.Elliot Reid
Remo Xavier	Dr.Molly Clock
Dennis Doe	Dr.Rosalie Vaughn
Robert Fernandez	Dr.Gavin Curtis
Emily Johnson	Dr.John Wen
Michael Williams	Dr.Nancy James
Sarah Brown	Dr.Alexis Estes
David Jones	Dr.Dallas Gutierrez
Jessica Davis	Dr.Aaliyah Craig
Christopher Wilson	Dr.Bob Kelso
Ashley Taylor	Dr.Jamison Clayton
Matthew Martinez	Dr.Christopher Turk
Samantha Anderson	Dr.Remy Cook
Daniel Garcia	Dr.Todd Quinlan
Amanda Hernandez	Dr.Aaliyah Craig
James Lopez	Dr.Mabel Leal
Jennifer Gonzalez	Dr.Estella Keller
Joshua Perez	Dr.Todd Quinlan
Brittany Torres	Dr.Odin Banks
Ryan Flores	Dr.Dallas Gutierrez
Lauren Ramirez	Dr.Todd Quinlan
Andrew Cruz	Dr.Alexis Estes
Nicole Scott	Dr.Aaliyah Craig
Justin Morales	Dr.Gavin Curtis
Stephanie Reed	Dr.Dallas Gutierrez
Brandon Nguyen	Dr.Nico Galvan
Megan Hill	Dr.Todd Quinlan
Austin Green	Dr.Jamison Clayton
Kayla Adams	Dr.Imani Harper
Tyler Baker	Dr.Bob Kelso
Haley Campbell	Dr.Remy Cook
Dylan Ward	Dr.Elliot Reid
Victoria Cox	Dr.Nancy James
Ethan Rivera	Dr.Odin Banks

Hannah Long	Dr.Cali Vazquez
Noah Diaz	Dr.Molly Clock
Olivia King	Dr.Ariya Bradley
Mason Powell	Dr.Mabel Leal

#16. Write a query in SQL to obtain the name of the physician with the department who are done with affiliation.

```
select p.name as physician_name,d.dept_name as department_name
from physician p
inner join affiliated_with aw
on p.employeeid = aw.physicianid
inner join department d
on aw.departmentid = d.department_id
where primaryaffiliation='t';
```

physician_name	department_name
Dr.John Dorian	General Medicine
Dr.Elliot Reid	General Medicine
Dr.Christopher Turk	Surgery
Dr.Percival Cox	General Medicine
Dr.Bob Kelso	Pulmonology
Dr.Todd Quinlan	Surgery
Dr.John Wen	Surgery
Dr.Keith Dudemeister	General Medicine
Dr.Molly Clock	Psychiatry
Dr.Imani Harper	Nephrology
Dr.Scott Vaughan	Gynecology
Dr.Nancy James	Cardiology
Dr.Mabel Leal	ENT
Dr.Rosalie Vaughn	Orthopedics
Dr.Remy Cook	Gastroenterology
Dr.Aaliyah Craig	Neurology
Dr.Cali Vazquez	Orthopedics
Dr.Jesse Craig	Neonatal
Dr.Gavin Curtis	Physiotherapy
Dr.Alexis Estes	Critical care
Dr.Nico Galvan	Physiotherapy
Dr.Dallas Gutierrez	Urology
Dr.Luca Flowers	Critical care
Dr.Ariya Bradley	Neurology
Dr.Jamison Clayton	Neonatal
Dr.Saige Juarez	Gastroenterology
Dr.Robert Suarez	Urology

#17. Write a query to obtain physician name, position and department they are affiliated with.

```
SELECT p.name AS physician_name, p.position AS physician_position, d.dept_name AS department_name
FROM Physician p
JOIN affiliated_with a
ON p.employeeid = a.physicianid
JOIN department d
ON a.departmentid = d.department_id;
```

physician_name	physician_position	department_name
Dr.John Dorian	Staff Internist	General Medicine
Dr.Elliot Reid	Attending Physician	General Medicine
Dr.Christopher Turk	Surgical Attending Physician	General Medicine
Dr.Percival Cox	Senior Attending Physician	General Medicine
Dr.John Wen	Surgical Attending Physician	General Medicine
Dr.Keith Dudemeister	Resident	General Medicine
Dr.Christopher Turk	Surgical Attending Physician	Surgery
Dr.Todd Quinlan	Surgical Attending Physician	Surgery
Dr.John Wen	Surgical Attending Physician	Surgery
Dr.Molly Clock	Attending Psychiatrist	Psychiatry
Dr.Berkley McKenzie	Resident	Cardiology
Dr.Nancy James	Cardiologist	Cardiology
Dr.Willow Farmer	Junior Resident	Cardiology
Dr.Imani Harper	Senior Attending Nephrologist	Nephrology
Dr.Richard Mitchell	Senior Resident	Nephrology
Dr.Dallas Gutierrez	Senior attending Urologist	Urology
Dr.Robert Suarez	Head Chief of Urology	Urology
Dr.Aaliyah Craig	Assistant Neuro Surgeon	Neurology
Dr.Ariya Bradley	Senior Attending Neurologist	Neurology
Dr.Gavin Curtis	Assistant Physiotherapist	Physiotherapy
Dr.Nico Galvan	Head chief of physiotherapy	Physiotherapy
Dr.Mabel Leal	Senior ENT Surgeon	ENT
Dr.Bob Kelso	Head Chief of pulmonology	Pulmonology
Dr.Cedric Kelley	Junior Resident	Pulmonology
Dr.Remy Cook	Head chief of Gastroenterology	Gastroenterology
Dr.Estella Keller	Assistant Gastro Surgeon	Gastroenterology
Dr.Saige Juarez	Senior Resident	Gastroenterology
Dr.Scott Vaughan	Senior Attending Gynecologist	Gynecology
Dr.Jesse Craig	Head chief of neonatal	Neonatal
Dr.Jamison Clayton	Assistant neonatologist	Neonatal
Dr.Jaxson Khan	Assistant Intensivist	Critical care
Dr.Odin Banks	Junior Intensivist	Critical care

Dr.Brynn Harrison	Staff Internist	Critical care
Dr.Alexis Estes	Senior Intensivist	Critical care
Dr.Luca Flowers	Intensivist	Critical care
Dr.Rosalie Vaughn	Assistant Orthopedic Surgeon	Orthopedics
Dr.Cali Vazquez	Head Chief of Orthopedics	Orthopedics

#18. Write a query in SQL to obtain the patient name from which physician they get primary\_checkup and also mention the patient diagnosis with prescription.

```

SELECT PH.EMPLOYEEID, PH.NAME AS Physician_Name, PH.POSITION AS
Designation, P.PATIENT_ID, CONCAT(P.NAME, ',P.SURNAME) AS Patient_treated,
P.GENDER,PD.DIAGNOSIS,PD.PRESCRIPTION
FROM PATIENT_DIAGNOSIS pd
LEFT JOIN Physician ph
ON pd.Physician_id = ph.employeeid
LEFT JOIN PATIENT P
ON P.PATIENT_ID = PD.PATIENT_ID;

```

EMPLOYEEID	Physician_Name	Designation	PATIENT_ID	Patient_treated	GENDER	DIAGNOSIS	PRESCRIPTION
2	Dr.Elliot Reid	Attending Physician	1	John Smith	Male	Hypertension	Lisinopril
17	Dr.Rosalie Vaughn	Assistant Orthopedic Surgeon	4	Dennis Doe	Male	Arthritis	Naproxen & Aspirin
9	Dr.Molly Clock	Attending Psychiatrist	3	Remo Xavier	Male	Anxiety Disorder	Fluoxetine
24	Dr.Gavin Curtis	Assistant Physiotherapist	5	Robert Fernandez	Male	Muscular Dystrophy	Corticosteroids
2	Dr.Elliot Reid	Attending Physician	2	Grace Ritchie	Female	Asthma	Albuterol
10	Dr.Imani Harper	Senior Attending Nephrologist	30	Kayla Adams	Female	IgA Nephropathy	Budesonide
7	Dr.John Wen	Surgical Attending Physician	6	Emily Johnson	Female	Chronic Pain	Tramadol
13	Dr.Nancy James	Cardiologist	7	Michael Williams	Male	Acoustic neuroma	Radiation therapy
25	Dr.Alexis Estes	Senior Intensivist	8	Sarah Brown	Female	Septic Shock	Corticosteroids:Hydrocortisone
28	Dr.Dallas Gutierrez	Senior attending Urologist	9	David Jones	Male	Kidney Stones	Ibuprofen, Acetaminophen
19	Dr.Aaliyah Craig	Assistant Neuro Surgeon	10	Jessica Davis	Female	Parkinsons Disease,Pramipexole	Ropinirole
5	Dr.Bob Kelso	Head Chief of pulmonology	11	Christopher Wilson	Male	Chronic Obstructive Pulmonary Disease (COPD)	Fluticasone,Budesonide
33	Dr.Jamison Clayton	Assistant neonatologist	12	Ashley Taylor	Female	Neonatal Jaundice	Phototherapy
3	Dr.Christopher Turk	Surgical Attending Physician	13	Matthew Martinez	Male	Chronic Pain	Tramadol
18	Dr.Remy Cook	Head chief of Gastroenterology	14	Samantha Anderson	Female	Gallstones	Cholecystectomy
6	Dr.Todd Quinlan	Surgical Attending Physician	15	Daniel Garcia	Male	Type 1 Diabetes	Insulin
19	Dr.Aaliyah Craig	Assistant Neuro Surgeon	16	Amanda Hernandez	Female	Migraine	Triptans
15	Dr.Mabel Leal	Senior ENT Surgeon	17	James Lopez	Male	Tonsillitis	Penicillin VK
26	Dr.Estella Keller	Assistant Gastro Surgeon	18	Jennifer Gonzalez	Female	Inflammatory Bowel Disease	Mesalamine
6	Dr.Todd Quinlan	Surgical Attending Physician	19	Joshua Perez	Male	Coronary Artery Disease	Aspirin

20	Dr.Odin Banks	Junior Intensivist	20	Brittany Torres	Female	Chronic Obstructive Pulmonary Disease (COPD)	Tiotropium
28	Dr.Dallas Gutierrez	Senior attending Urologist	21	Ryan Flores	Male	Urinary Tract Infection (UTI)	Nitrofurantoin
6	Dr.Todd Quinlan	Surgical Attending Physician	22	Lauren Ramirez	Female	Attention Deficit Disorder	Dextroamphetamine
25	Dr.Alexis Estes	Senior Intensivist	23	Andrew Cruz	Male	Traumatic Brain Injury (TBI)	Propofol,Midazolam
19	Dr.Aaliyah Craig	Assistant Neuro Surgeon	24	Nicole Scott	Female	Neuropathic Pain	Amitriptyline
24	Dr.Gavin Curtis	Assistant Physiotherapist	25	Justin Morales	Male	Chronic Obstructive Pulmonary Disease	Breathing exercises
28	Dr.Dallas Gutierrez	Senior attending Urologist	26	Stephanie Reed	Female	Overactive Bladder	Oxybutynin
27	Dr.Nico Galvan	Head chief of physiotherapy	27	Brandon Nguyen	Male	Sports Injuries	muscle relaxants
6	Dr.Todd Quinlan	Surgical Attending Physician	28	Megan Hill	Female	Psoriasis	Methotrexate
33	Dr.Jamison Clayton	Assistant neonatologist	29	Austin Green	Male	Respiratory Distress Syndrome	Beractant
5	Dr.Bob Kelso	Head Chief of pulmonology	31	Tyler Baker	Male	Coronavirus Disease 2019 (COVID-191)	Remdesivir
18	Dr.Remy Cook	Head chief of Gastroenterology	32	Haley Campbell	Female	Chronic Gastritis	Pantoprazole
2	Dr.Elliot Reid	Attending Physician	33	Dylan Ward	Male	Generalized Anxiety Disorder (GAD)	Buspirone
13	Dr.Nancy James	Cardiologist	34	Victoria Cox	Female	Sinusitis	Acetaminophen
20	Dr.Odin Banks	Junior Intensivist	35	Ethan Rivera	Male	Burn Injuries	Acetaminophen
21	Dr.Cali Vazquez	Head Chief of Orthopedics	36	Hannah Long	Female	Osteoporosis	Calcitonin
9	Dr.Molly Clock	Attending Psychiatrist	37	Noah Diaz	Male	Depression	Fluoxetine
30	Dr.Ariya Bradley	Senior Attending Neurologist	38	Olivia King	Female	Myasthenia Gravis	Pyridostigmine
15	Dr.Mabel Leal	Senior ENT Surgeon	39	Mason Powell	Male	Otitis Media	Amoxicillin

## #SUBQUERY

#19. Write a query in SQL to obtain the maximum cost of the medical procedure.

SELECT NAME,COST FROM PROCEDURES

WHERE COST IN (SELECT MAX(COST) FROM PROCEDURES);

	NAME	COST
▶	Fluoroscopy - Upper GI Series	7000

#20. Write a query in SQL to obtain the details of patient who has diagnosed with chronic pain.

SELECT \* FROM Patient

WHERE patient\_id IN (SELECT Patient\_ID FROM PATIENT\_DIAGNOSIS WHERE Diagnosis = 'Chronic Pain');

	patient_id	name	surname	address	Gender	primary_check
▶	6	Emily	Johnson	56 Elm St	Female	7
13	Matthew	Martinez		222 Cherry St	Male	3
*	NULL	NULL	NULL	NULL	NULL	NULL

#21. Write a query in SQL to obtain the procedure name and cost whose cost is greater than the avg cost of all the procedure.

SELECT name as Procedure\_name,cost as Procedure\_cost

FROM procedures

WHERE cost > (SELECT AVG(cost) FROM procedures);

	Procedure_name	Procedure_cost
▶	MRI-Brain	5000
	MRI-Spine	6000
	CT Scan-Abdomen	3000
	CT Scan-Pelvis	3500
	PET-CT Scan	5000
	Fluoroscopy - Upper GI Series	7000
	Fluoroscopy - Barium Enema	4500
	MRI-Knee	4000

#22. Write a query in SQL to obtain the procedure name and cost whose cost is less than the avg cost of all the procedure.

```
SELECT name as Procedure_name,cost as Procedure_cost  
FROM procedures  
WHERE cost < (SELECT AVG(cost) FROM procedures);
```

Procedure_name	Procedure_cost
X-ray-Chest	1000
X-ray-Abdomen	1200
X-ray-Skull	900
X-ray-Spine	1500
Ultrasound-Abdomen	700
Ultrasound-Obstetric	2500
Mammogram	1200
Bone Density Scan (DEXA)	1800
Nuclear Medicine - Thyroid Scan	450
Angiography - Cerebral	800
Interventional Radiology - Biopsy	700
X-ray-Extremities	300

#23. Write a query in SQL to obtain the physician name who are either head chief or senior in their respective department.

```
SELECT *  
FROM Physician  
WHERE position IN (SELECT position  
                    FROM Physician  
                    WHERE position  
                          LIKE '%Senior%' OR position LIKE '%Head Chief%'  
                    );
```

employeeid	name	position
4	Dr.Percival Cox	Senior Attending Physician
5	Dr.Bob Kelso	Head Chief of pulmonology
10	Dr.Imani Harper	Senior Attending Nephrologist
12	Dr.Scott Vaughan	Senior Attending Gynecologist
15	Dr.Mabel Leal	Senior ENT Surgeon
18	Dr.Remy Cook	Head chief of Gastroenterology
21	Dr.Cali Vazquez	Head Chief of Orthopedics
22	Dr.Jesse Craig	Head chief of neonatal
25	Dr.Alexis Estes	Senior Intensivist
27	Dr.Nico Galvan	Head chief of physiotherapy
28	Dr.Dallas Gutierrez	Senior attending Urologist
30	Dr.Ariya Bradley	Senior Attending Neurologist
31	Dr.Richard Mitchell	Senior Resident
34	Dr.Saige Juarez	Senior Resident
35	Dr.Robert Suarez	Head Chief of Urology

#24. Write a query in SQL to obtain the employeeid, physician name and position whose primary affiliation has not been done.

```

SELECT *
FROM Physician
WHERE employeeid IN (SELECT physicianid
                      FROM affiliated_with
                      WHERE primaryaffiliation = 'f'
                     );
    
```

employeeid	name	position
3	Dr.Christopher Turk	Surgical Attending Physician
7	Dr.John Wen	Surgical Attending Physician
11	Dr.Berkley McKenzie	Resident
14	Dr.Jaxson Khan	Assistant Intensivist
16	Dr.Cedric Kelley	Junior Resident
20	Dr.Odin Banks	Junior Intensivist
23	Dr.Brynn Harrison	Staff Internist
26	Dr.Estella Keller	Assistant Gastro Surgeon
31	Dr.Richard Mitchell	Senior Resident
32	Dr.Willow Farmer	Junior Resident

## **6.Conclusion:**

In conclusion, this SQL Project was made to help hospital staff maintain information and improve access, making the retrieval process easier. The Hospital database management must be improved or upgraded to meet any situation. The EER diagram and its associated relational schema show the conceptual and logical designs of the system. We also defined data types and constraints for each attribute in the relations. The next step is to implement this database and change the design accordingly. The developed system and its evaluation should be carried out to improve the database system and management processes in hospitals. The project Hospital Management System is for computerizing the working in a hospital. It takes care of all the requirements of an average hospital and is capable to provide easy and effective storage of information related to patients that come up to the hospital.

*Thank You*