Hospital Database Project

PROJECT DESCRIPTION:

When people suffer from any major health problems to the minor ones like stress, high workload, psychiatric problems, the most essential need in our life is to go to hospital which provides the best medical support with all the latest equipment and technologies. Hospitals need to maintain the past, present records of the patients and keep them updated. By maintaining these records, it is convenient for the patients and physicians to interact in a better way for the good outcome.

It is technically difficult to maintain all records on the paper. Sometimes it causes issues like errors, time consuming, missing of crucial information etc. Recording and maintenance of the data on the paper is highly impossible. If the Information of a patient diagnosis is written on the paper, it might be destroyed after few years to reduce the load of papers. Doing all these things manually is complicated. Thus, we have come up with an automated version of the system, known as 'Hospital Management System'.

During the registration for diagnosis, the registration into hospital is provided, where patient is required to give all the details regarding their medical history. Past medication and condition of the patient plays a prominent role in any kind of diagnosis. Staff will be allotted in respective roles to interact with the patient and to record the details into the system. Staff are expected to have basic computer operational skills. Relevant software is used for the maintaining the technical work in the hospitals. It could be implemented in all types of the hospitals to get the details of the physician, patients and the other staff, which includes physician appointment time, specialization of the doctor, patient laboratory data, vitals, along with payment and billing information. Staff will take the details of the patient when they are about to get admitted. If the details are already in the records, then the information will directly get updated in their existing profile, else new Patient ID will be allotted. The system generates report based on the User requirements.

Main aim of the project is to help the hospitals in reducing the paperwork and upgrade with the new database storage technologies. Also aiming to lessen the cost by doing automation of the work in the systems. It helps to reduce the space for storing bulk manual records of the patients in the hospitals. It helps in showing the outstanding security to the information at various levels of user-system interaction. It provides to store the past and present information without formatting the data for storage. This method shows the great backup facilities while dealing with the data in computers.

OBJECTIVES:

- To computerize all the details about the Physician, patient and hospital.
- Details of Patient Medical information and their admission,
- Updating the patients records timely.
- To schedule the doctor's appointment provided for the patients according to the availability and prioritizing the emergency condition of the Patient.
- Handling the medical test reports of the patients from the laboratory advised by the doctors.

- Managing the stocks status of the pharmacy.
- Details of Medical Staff which includes Nurse practitioner, receptionist, accountant
- Consultation treatment, diagnosis and medication.
- The record should be updated whenever the transaction is done.
- Up to date information should be taken from the patients and it should be maintained in the records for the future use and to prevent the further adverse effects.

SCOPE:

1. The primary role is going to maintain the patient details confidentially and to increase the efficiency in the hospitals.
2. To make the computerized works in the hospital which shows great development over doing manually.
3. By making Computerized it generates the Reports of the patients, follow up messages will directly be sent to the patients.
4. As per the requirement, the system can offer the backup of the information if needs.
5. Software will support the constraints of the clinic or the hospitals, Labs and Dispensaries in providing the easy and effective storage of the data about the patients for the future use.
6. The main intention is to decrease the time over-time pay and to improve the patient's health by treating perfectly.
7. Computerized working helps in speeding up the process.
8. Appointment Scheduling can be done through online and it will be updated in the patient's profile and they will send the patients directly to the concerned departments by checking the physician availability at that time for check-up.
9. To do the Staff management works like Work roster, availability, Scheduling and Management functions like accounting and Resource allocation like booking rooms, Operation theaters.

PROJECT REQUIREMENTS:

Operating System: Windows
Database: SQL SERVER
Applications: Microsoft word, MS PowerPoint,

DATABASE REQUIREMENTS:

The following information contains the data tables for the database collection:

1. Patient Information Table
2. Physician Information Table
3. Appointment Details Table
4. Details of the Patient Record Table
5. Patient Vitals Table
6. Equipment Kit table
7. Details of the Visit Table

8. Billing Table
9. Payment Table

USER REQUIREMENTS:

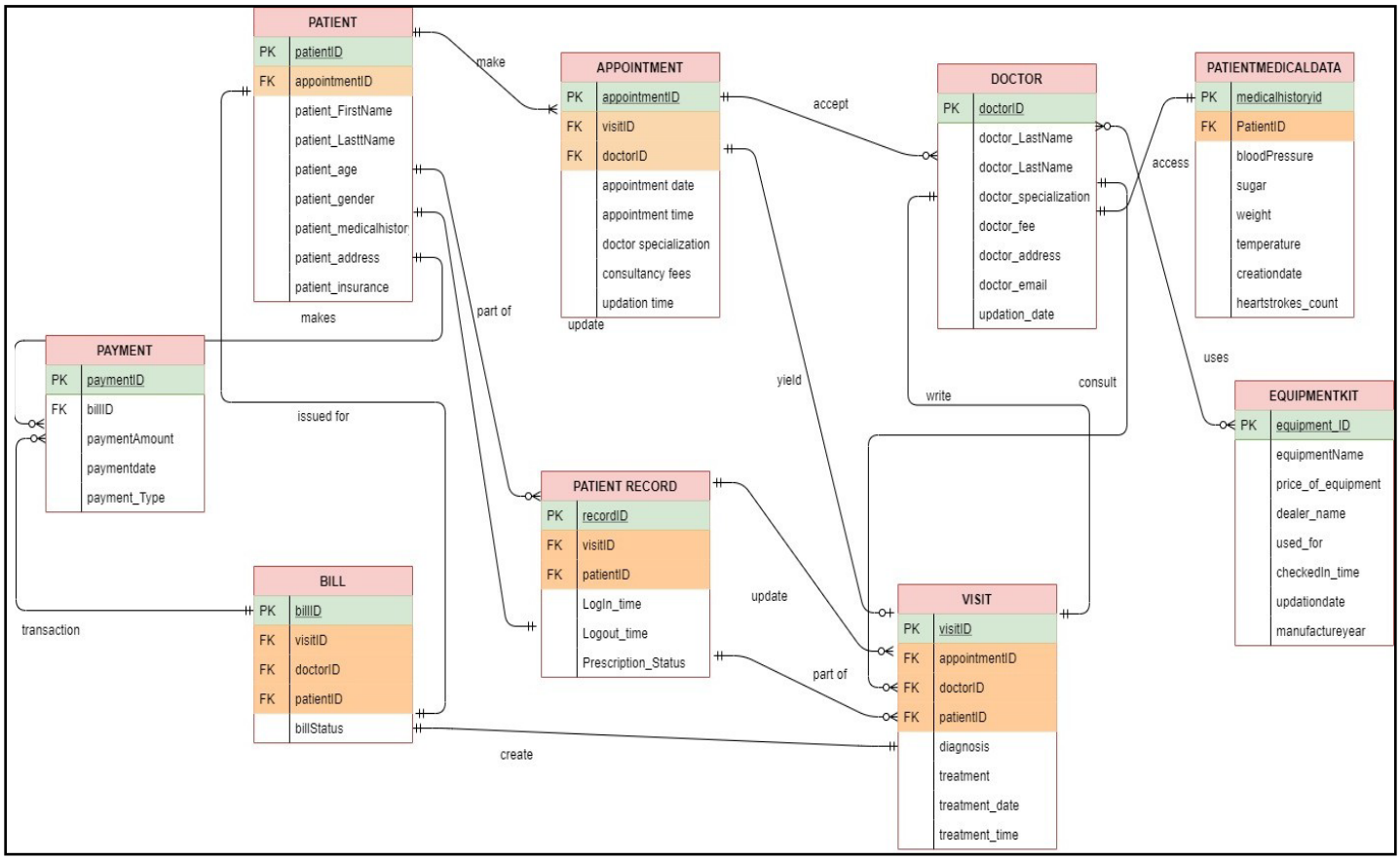
- User will be able to search the appointments: The user will be responsible to keep the track for appointments of the patients, including the details like Appointment ID, Visit ID, Doctor ID, appointment data and time, consultation fees, and updated information of any of these.
- System shall generate a list of patients who are expected to attend appointments each day. Details of patients include their first name, last name, appointment ID, patient's age, gender, address, insurance and medical history, which further consist of information like patient's height, weight, sugar, temperature, heartbeat rate and blood pressure.
- Patient's condition will be checked by diagnosis and doctor suggests medicines to them. Information regarding the doctor which consist of doctor ID, doctor's first name, last name, specialization, consultation fee, doctor's address, email and available dates.
- Doctor's visit details include visit ID, appointment ID which shall match with patient's appointment ID, doctor ID, patient ID, diagnosis, treatment for the disease, treatment data and time.
- For the treatment, equipment details are required, such as equipment name, it's price, dealer name, check-in time, updated date and for what it is used.
- When all these details are collected, they must be stored accordingly in respective files. Fir this, we need records. Records will have the details such as record ID, visit ID, patient ID, login and logout time and status.
- Finally, when the patients visit for doctor's appointment, the fee and other treatment costs is charged and billed with details that consists of bill ID, visit ID, doctor ID, patient ID, billing status.
- Payment details are maintained in database that consist of information having payment ID, bill ID, payment amount and payment date.

BUSINESS RULES:

1. A doctor can have multiple patients.
2. A patient can have multiple doctors
3. Each patient can have one or more appointments.
4. A doctor is specialized in a single area.
5. A doctor has a doctor ID.
6. A patient is admitted on a given day and checked out on a given day.
7. Each patient has a patient admittance id
8. A doctor may order multiple tests for patients.
9. Insurance Id information is collected from each patient
10. Each treatment performed for patient has a diagnosis number, date and time of the treatment and the results.
11. A patient can have one or more many bills.
12. A patient has a unique Id, name, location, address, age, gender, date admitted, and date discharged.

13. Each patient Bill can have one or many bill items.
14. One final billing will be generated for each patient ID.
15. Each patient can have ore or many patient medical history records.

Entity Relationship Diagram:



Data Dictionary:

A Data Dictionary is a catalogue – a repository – of the elements in a system. As the name suggests, these elements center on the data and the way they are structured to meet user requirements and organization needs. In a Data Dictionary you will find a list of all the elements are data flow data stores and processes. The Data Dictionary stores details and description of these elements.

DATA DICTIONARY IMPORTANCE: Analyst use Data Dictionaries for the following several reasons.

- To manage the detail in the large system.
- To communicate a common meaning for all the system elements.
- To document the features of the system.
- To facilitates analysis of the details in order to evaluate characteristics and determine where system change should be made.

- To locate errors and omissions in the system

SNo.	Table Name	Attribute Name	Description	Type	PK or FK
1.	**Patient**	patientID	ID number given to patient	INT	PK
		appointmentID	Appointment number allotted to patient	INT	FK
		patient_LastName	Patient's first name	VCHAR(250)	
		patient_FirstName	Patient's Last Name	VCHAR(250)	
		patient_age	Patient's age	INT	
		patient_gender	Patient's Gender	VCHAR(250)	
		patient_address	Residence Address of Patient	VCHAR(250)	
		patient_insurance	Insurance number/details	VCHAR(250)	
		patient_medicalhistory	Patient previous medical issues or conditions	VCHAR(250)	
2.	**Doctor**	doctorID	ID number of Doctor	INT	PK
		doctor_FirstName	Doctor First name	VCHAR(250)	
		doctor_LastName	Doctor Last Name	VCHAR(250)	
		doctor_specialization	Specialization of field of doctor	VCHAR(250)	
		doctor_fee	Doctor's treatment/medication fees	INT	
		doctor_address	Residence address of doctor	VCHAR(250)	
		doctor_email	Email address contact of doctor	VCHAR(250)	
		doctor_date	Doctor's visit date	DATE	
3.	**Appointment**	appointment_ID	Appointment number allotted to patient	INT	PK
		visitID	Number given to visit the hospital or doctor	INT	FK
		doctorID	ID number of Doctor	INT	FK
		appointment date	Date of check-up/consultation given to patient	DATE	
		appointment_time	Time scheduled to patient	TIME	
		doctor specialization	Specialization of field of doctor	VCHAR(250)	FK
		consultancy_fees	Fees given to doctor or hospital	INT	FK
		updation_time	Time for any further updates on appointment or collection of reports	TIME	
4.	**Patient Record**	recordID	ID provided in record book/storage device.	INT	PK FK
		visitID	Number given to visit the hospital or doctor	INT	FK
		patientID	ID number given to patient	INT	FK
		Login_time	Patient Check-In time	TIME	
		Logout_time	Patient Check-Out time	TIME	
		Prescription_Status	To check whether the patient has been diagnosed and prescribed for treatment.	VCHAR(250)	
5.	**Patient Medical Data**	medicalhistory	Patient previous medical issues or conditions	VCHAR(250)	
		patientID	ID number given to patient	INT	FK
		bloodPressure	Blood Pressure of patient:Normal,High,Low	VCHAR(250)	
		sugar		VCHAR(250)	

		weight temperature creationdate heartstrokes_count	Sugar levels of patient:Normal, High, Low Body weight:Under,Normal,Over, Obese Body Temperature: Normal Date on which tests are done Number of time patient had heart strokes	VCHAR(250) VCHAR(250) DATE INT	
6.	**EquipmentKit**	equipment_ID equipmentname manufactured_year price_of_equipment dealer_name used_for checkedIn_time updationdate	The number given to the machine/instrument Name of equipment used Year of manufacture of equipment Cost of equipment at time of buying Name of dealer/company equipment bought The equipment usage/application Patient/visitor/Staff/Doctors/Others Check-In time Date for further updates on appointment, visit, collection of reports	INT VCHAR(250) DATE INT VCHAR(250) VCHAR(250) TIME DATE	PK
7.	**Visit**	visitID appointmentID doctorID patientID diagnosis treatment treatment_date treatment_time	Number given to visit the hospital or doctor Appointment number allotted to patient ID number of Doctor ID number given to patient Required diagnosis suggested by doctor Type of treatment suggested by doctor Date of treatment for patient Time allotted to patient for treatment	INT INT INT INT VCHAR(50) VCHAR(50) DATE TIME	PK FK FK FK
8.	**Bill**	billID visitID doctorID patientID billStatus	Bill number on hospital invoice Number given to visit the hospital or doctor ID number of Doctor ID number given to patient Bill paid or pending	INT INT INT INT VCHAR(250)	PK FK FK FK
9.	**Payment**	paymentID billID paymentAmount paymentdate paymentType	Hospital bill payment ID Bill number on hospital invoice Amount to be paid to hospital Date on which payment is made Cash/Card/Insurance claim	INT INT INT DATE VCHAR(250)	PK FK

I. Data Entry and Update:

CREATE TABLE:

QUERY:
```
CREATE TABLE `appointment` (
  `appointment_ID` int NOT NULL,
  `visitID` varchar (45) NOT NULL,
  `doctorID` int DEFAULT NULL,
  `appointmentdate` date DEFAULT NULL,
  `appointment_time` varchar (45) DEFAULT NULL,
  `doctor specialization` varchar (45) DEFAULT NULL,
  `consultancy_fees` int DEFAULT NULL,
  `updation_time` time DEFAULT NULL,
  PRIMARY KEY (`appointment`, `visitID`)
)
```

INSERT STATEMENTS:

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specialization`, `consultancy_fees`, `updation_time`) VALUES ('112', '123', '1', '2020-05-11', ‘9:00AM, 'Cardiologist', '200', '09:30:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES('114', '134', '2', '2020-04-12', '9:30AM', 'Neurologist', '300', '10:00:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('115', '145', '3', '2020-04-19', '10:00AM', 'Pediatrician', '400', '11:00:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('116', '156', '4', '2020-06-11', '11:00AM', 'Gynecologist', '300', '11:30:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('117', '167', '5', '2020-04-29', '11:30AM', 'Ophthalmologist', '200', '12:00:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('118', '168', '6', '2020-04-17', '12:30AM', 'Cardiologist', '200', '02:30:00');

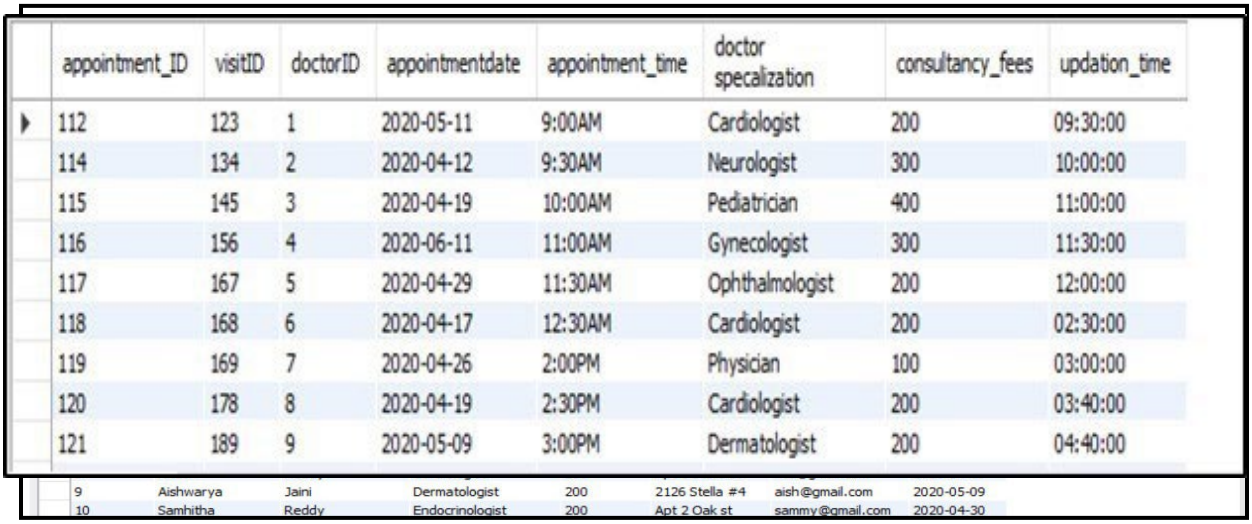
INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('119', '169', '7', '2020-04-26', '2:00PM', 'Physician', '100', '03:00:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('120', '178', '8', '2020-04-19', '2:30PM', 'Cardiologist', '200', '03:40:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('121', '189', '9', '2020-05-09', '3:00PM', 'Dermatologist', '200', '04:40:00');

INSERT INTO `appointment`.` appointment` (`appointment_ID`, `visitID`, `doctorID`, `appointment date`, ‘appoitnment_time’, `doctor specalization`, `consultancy_fees`, `updation_time`) VALUES ('122', '199', '10', '2020-04-30', '3:30PM', 'Endocrinologist', '200', '05:00:00');

RESULT:



appointment_ID	visitID	doctorID	appointmentdate	appointment_time	doctor specalization	consultancy_fees	updation_time
112	123	1	2020-05-11	9:00AM	Cardiologist	200	09:30:00
114	134	2	2020-04-12	9:30AM	Neurologist	300	10:00:00
115	145	3	2020-04-19	10:00AM	Pediatrician	400	11:00:00
116	156	4	2020-06-11	11:00AM	Gynecologist	300	11:30:00
117	167	5	2020-04-29	11:30AM	Ophthalmologist	200	12:00:00
118	168	6	2020-04-17	12:30AM	Cardiologist	200	02:30:00
119	169	7	2020-04-26	2:00PM	Physician	100	03:00:00
120	178	8	2020-04-19	2:30PM	Cardiologist	200	03:40:00
121	189	9	2020-05-09	3:00PM	Dermatologist	200	04:40:00

9	Aishwarya	Jaini	Dermatologist	200	2126 Stella #4	aish@gmail.com	2020-05-09
10	Samhitha	Reddy	Endocrinologist	200	Apt 2 Oak st	sammy@gmail.com	2020-04-30

Creating table:

```
create table Doctor (doctor_ID int not null primary key,
   doctor_lastName varchar (50) not null,
   doctor_firstName varchar (50) not null,
   doctor_specialization varchar (100) not null,
   doctor_fee int not null,
   doctor_address varchar (200) not null,
   doctor_email varchar (100) not null,
   doctor_date date not null);
```

INSERT:

```
Insert into Doctor Values (1, 'Smith', 'Rock', 'Cardiologist', 200, '2126 Stella #2', 'smith@gmail.com', '2020-5-11');
Insert into Doctor Values (2, 'Rashmi', 'Kasoju', 'Neurologist', 500, '2126 Stella #3', 'rush@gmail.com', '2020-4-12');
Insert into Doctor Values (3, 'Likhitha', 'Chundi', 'Pediatrician', 400, 'Apt 6 Oak st', 'likki@gmail.com', '2020-4-19');
Insert into Doctor Values (4, 'Jahnavi', 'Allam', 'Gynecologist', 300, 'Apt 5 Stella st', 'janu@gmail.com', '2020-6-11');
Insert into Doctor Values (5, 'Ram', 'Reddy', 'Ophthalmologist', 200, '2126 Oak St #2', 'ram@gmail.com', '2020-4-29');
Insert into Doctor Values (6, 'Meghana', 'Kacham', 'Cardiologist', 200, 'Apt 8 Stella st', 'megh@gmail.com', '2020-4-17');
Insert into Doctor Values (7, 'Pavani', 'Panu', 'Physician', 100, '2126 Oak St #1', 'panu@gmail.com', '2020-4-26');
Insert into Doctor Values (8, 'Ritesh', 'Reddy', 'Cardiologist', 200, 'Apt 6 Stella st', 'ritu@gmail.com', '2020-4-19');
Insert into Doctor Values (9, 'Aishwarya', 'Jaini', 'Dermatologist', 200, '2126 Stella #4', 'aish@gmail.com', '2020-5-9');
Insert into Doctor Values (10, 'Samhitha', 'Reddy', 'Endocrinologist', 200, 'Apt 2 Oak st', 'sammy@gmail.com', '2020-4-30');
```

Create Table patient(
patient_ID int not null primary key,
patient_FirstName varchar (50) not null,
patient_LastName varchar (50) not null,
patient_age int not null,
patient_gender varchar (50) not null,
patient_address varchar (100) not null,
patient_insurance int not null,
patient_medicalhistory varchar (225) not null
)

INSERT Query:

Insert Into patient
Values (

(1001, 'John', 'Smith', 34, 'M', '42 Foobar Lane', 64738389, 'Heart Stroke Twice'),
(1002, 'Grace', 'Ritchie', 27, 'F', '37 Snafu Lane', 36541207,'Miscarriage two years ago'),
(1003, 'Dennis', 'Joe', 76, 'M', '101 Stella Street', 75615231, ' Pancreatic Cancer twelve years back'),
(1004, 'Rachel', 'Doe', 45, 'F', '1100 Foobaz Avenue', 74521036, 'Hypertension'),
(1005, 'Todd', 'Quinn', 37, 'M', '10 Downing Street', 56231407, 'Hyperglycemia two years ago'),
(1006, 'Molly', 'Clock', 47, 'F', '123 Avenue Street', 46230158, 'Hernia Operated three years back'),
(1007, 'Keith', 'Dorian', 45, 'M', '210 Redit Street', 56320148, 'Nasal artery cauterization and clip placement '),
(1008, 'Felicity', 'Cox', 29, 'F', '113 Oasis Street', 32014568,'None'),
(1009, 'Brennan', 'Turk', 23, 'F', '314 Tortola Way', 63214799, 'None'),
(1010, 'Christopher', 'Reid', 55, 'M', '116 Westin Avenue', 30214568, 'Appendix Surgery seven years ago');

The following figure shows the queries for 'Insert' Statement:

```
Insert Into patient
Values(
(1001, 'John', 'Smith', 34, 'M', '42 Foobar Lane', 64738389, 'Heart Stroke Twice'),
(1002, 'Grace', 'Ritchie', 27, 'F', '37 Snafu Lane', 36541207,'Miscarriage two years ago'),
(1003, 'Dennis', 'Joe', 76, 'M', '101 Stella Street', 75615231, ' Pancreatic Cancer twelve years back'),
(1004, 'Rachel', 'Doe', 45, 'F', '1100 Foobaz Avenue', 74521036, 'Hypertension'),
(1005, 'Todd', 'Quinn', 37, 'M', '10 Downing Strreet', 56231407, 'Hyperglycemia two years ago'),
(1006, 'Molly', 'Clock', 47, 'F', '123 Avenue Street', 46230158, 'Hernia Operated three years back'),
(1007, 'Keith', 'Dorian', 45, 'M', '210 Redit Street', 56320148, 'Nasal artery cauterization and clip placement '),
(1008, 'Felicity', 'Cox', 29, 'F', '113 Oasis Street', 32014568,'None' ),
(1009, 'Brennan', 'Turk', 23, 'F', '314 Tortala Way', 63214799, 'None'),
(1010, 'Christopher', 'Reid', 55, 'M', '116 Westin Avenue', 30214568, 'Appendix Suregry seven years ago');
```

CREATE Bill Table

```
Create Table Bill
(
Bill_ID int not null primary key ,
VisitID  int not null,
doctorID int not null,
patient_ID int not null,
BillStatus varchar(100)
);
```

INSERT Query: The following is the image of the queries for Insert Values

```
Insert Into Bill
Values
('12','101' ,'5', 1007, 'Cleared Bill'),
('23','105' ,'7', 1010, 'Cleared Bill'),
('25','168' ,'6', 1006, 'Pending'),
('11','156' ,'5', 1003, 'Cleared Bill'),
('16','169' ,'3', 1001, 'Pending' ),
('19','106' ,'7', 1009, 'Pending'),
('13','134' ,'3', 1002, 'Pending'),
('31','104' ,'5', 1004, 'Cleared Bill'),
('18','102' ,'2', 1005, 'Cleared Bill'),
('29','103' ,'1', 1008, 'Cleared Bill')
```

Creating table: VISIT

```
create table Visit( visitor_ID int not null primary key,
   appointment_ID int not null,
   doctor_ID int not null,
   patient_ID int not null,
   Tests  varchar(100) not null,
   treatment varchar(200) not null,
   treatment_date date not null,
   treatment_time time not null);
```

INSERT:

Explanation: Values are inserted into the table using the queries:
SQL Queries:

```
insert into Visit values(101, 112, 10, 1001, 'Fever', 'Blood Test', '2020-4-29', "19:30:10" );
insert into Visit values(102, 113, 11, 1002, 'Fever', 'CBC', '2020-4-28', "14:30:50" );
insert into Visit values(134, 114, 1, 1003, 'Heart Stroke ', 'ECG', '2020-5-17', "17:00:00" );
insert into Visit values(106, 111, 2, 1004, 'Alzheimers ', 'MRI & CT scan', '2020-5-16', "12:10:10" );
insert into Visit values(145, 115, 3, 1005, 'Meningitis', 'CSF', '2020-5-09', "19:20:10" );
insert into Visit values(156, 116, 4, 1006, 'Hormonal Imbalance', 'CBC, Thyroid Profile', '2020-5-20',
"03:30:20" );
insert into Visit values(105, 117, 5, 1007, 'Eye sight', 'Corneal Topography', '2020-4-24', "17:50:00" );
```

insert into Visit values(168, 118, 6, 1008, 'Cardiac Arrest', 'ECG, CT, MRI', '2020-4-13', "14:30:10");
insert into Visit values(169, 110, 7, 1009, 'High Fever and Body Pains', 'CBC, Full body check-up', '2020-4-27', "03:45:00");
insert into Visit values(103, 119, 8, 1010, 'Peripheral Artery Disease', 'ABI, Ultra sound', '2020-4-19', "15:45:10");
insert into Visit values(104, 120, 9, 1011, 'Hormonal Imbalance and imrpoper gland functioning', 'CBC, Thyroid Profile', '2020-5-15', "20:30:00");

Create EquipmentKit Table

```
Use Hospital;
Create Table EquipmentKit
(
Equipment_ID int not null primary key,
EquipmentName varchar(250),
Manufactured_year year,
Price_of_equipment  int not null,
Dealer_name varchar(100),
Used_for varchar(100),
CheckedIn_time time,
Updationdate date not null
);
```

```
Insert Into EquipmentKit
Values

('1254', 'Vaginal speculums', '2018', 10000, 'Gynex Corporation', 'Examination of vagina and cervix', '16:04:00', '2021-05-22'),
('0214', 'ElectroMyoGram', '2012', 352510, 'Vertisat Incorporations', 'Check the nerve and muscle responses', '09:14:25', '2020-06-20'),
('1265', 'Computed Tomography','2016', 65000, 'Siemens HealthCare Ltd.', 'Examine Organs, bones and other tisues ', '08:21:48', '2023-08-13'),
('9874', 'Ophthalmoscope', '2008', 16520, 'Welch Allyn Pvt. Ltd.', 'Study the retina and optical nerves ', '12:12:35', '2021-05-16'),
('4125', 'ElectroCardioGram', '2017', 25500, 'Donaher Corporations', 'Checking the electrical siganls of heart', '17:25:25','2020-04-16'),
('1258', 'Biopsy Punches', '2010', 4250, 'Robins and Sons Inc.', 'Provides samples of skin tissues', '22:23:10', '2020-03-31'),
('2560', 'EncepheloGram', '2015', 100000, 'Johnson and Johnson Ltd', 'Electrical patterns of brain', '17:45:00', '2022-07-31'),
('5698', 'Magnetic Resonace Imaging ', '2017', 155000, 'Medtronic Corporations', 'Examine structures in human body', '05:12:23', '2024-08-19'),
('0217', 'Oral Pantamograph', '2012', 15000, 'Teruma Corporations', 'Laminagraph of curved surfaces in teeth ', '11:20:57', '2023-08-13'),
('1207', 'Defibrilator', '2011', 113205, 'Hologic Inc.', 'Restoration of normal heart beat', '08:21:48', '2023-08-13')
```

Creating table:

SQL Query:

```
create table patient_record( record_ID int not null primary key,
    visitor_ID int not null,
    patient_ID int not null,
    login_time time not null,
    logout_time time not null,
    prescription_status varchar(200) not null
    );
```

INSERT:

Explanation: Values are inserted into the table using the queries:
SQL Queries:

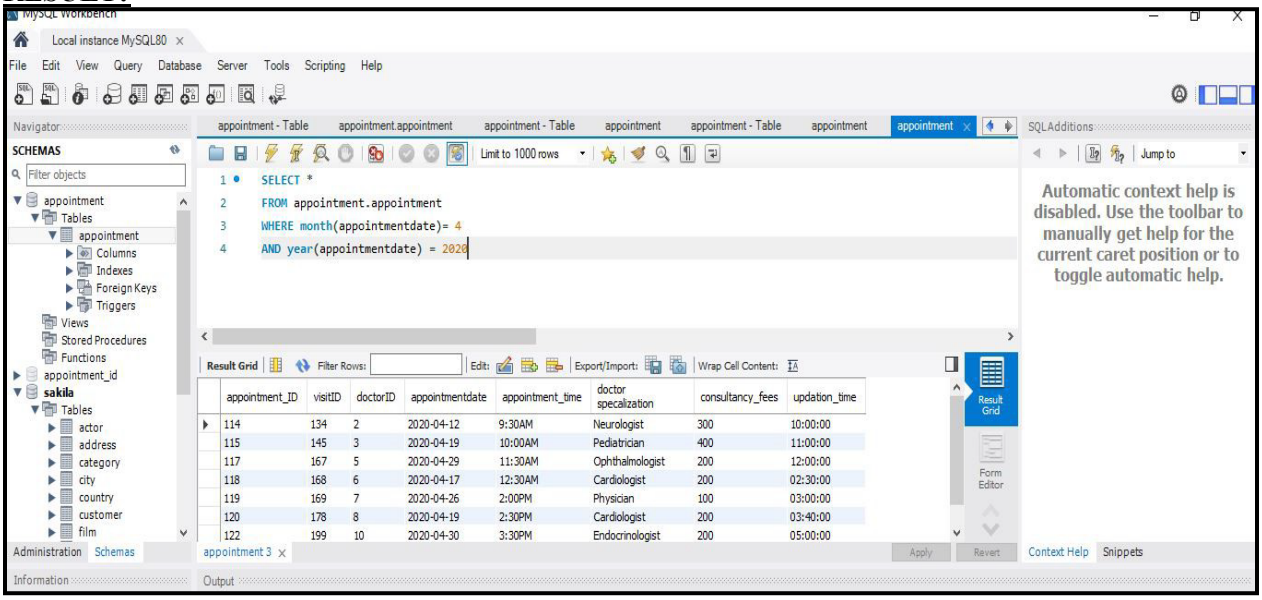
```
insert into patient_record values(5001, 101, 1011, '10:20:20', '12:00:00', 'Given');

insert into patient_record values(5002, 102, 1010, '9:30:00', '11:00:00', 'Pending');
insert into patient_record values(5003, 103, 1009, '13:00:20', '15:40:00', 'Given');
insert into patient_record values(5004, 104, 1008, '14:00:20', '16:30:00', 'Given');
insert into patient_record values(5005, 105, 1007, '16:00:20', '18:30:00', 'Pending');
insert into patient_record values(5006, 106, 1006, '17:00:20', '18:00:00', 'Given');
insert into patient_record values(5007, 134, 1005, '18:00:20', '19:45:00', 'Pending');
insert into patient_record values(5008, 145, 1004, '20:00:20', '21:00:00', 'Given');
insert into patient_record values(5009, 156, 1003, '3:00:20', '5:30:00', 'Pending');
insert into patient_record values(5010, 168, 1002, '22:00:20', '8:50:00', 'Pending');
insert into patient_record values(5011, 169, 1001, '4:00:20', '7:30:00', 'Given');
```

II. Data Retrieval and Reports:

Question: Who are the patients who came in the month of April and in the year 2020?

QUERY: SELECT * FROM appointment. Appointment WHERE month(appointmentdate)= 4 AND year(appointmentdate) = 2020

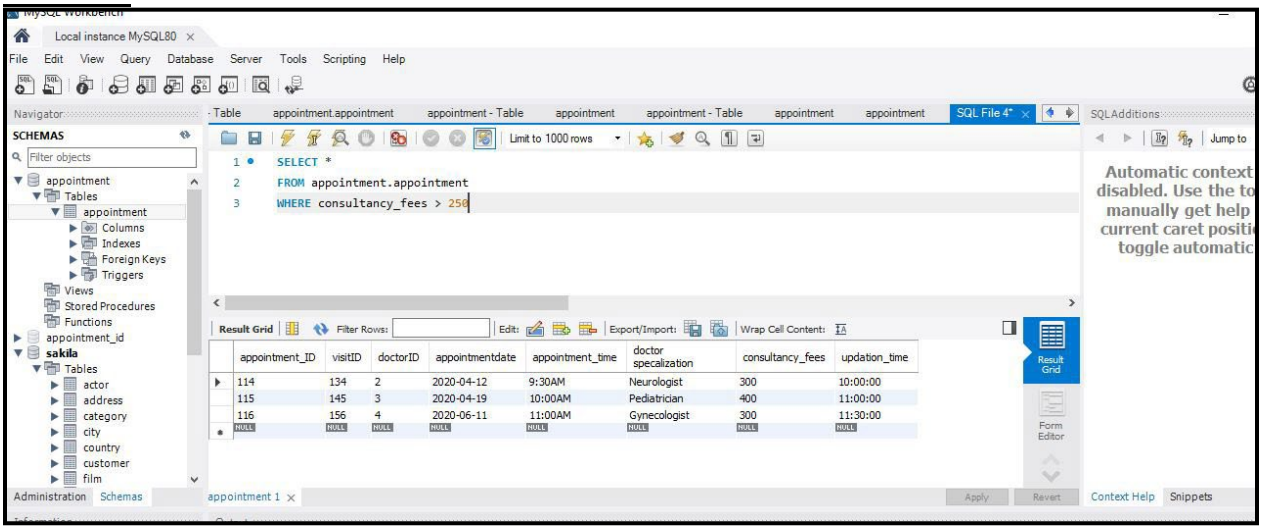
RESULT:



EXPLANATION: Which patients have consultancy fees more than 250?

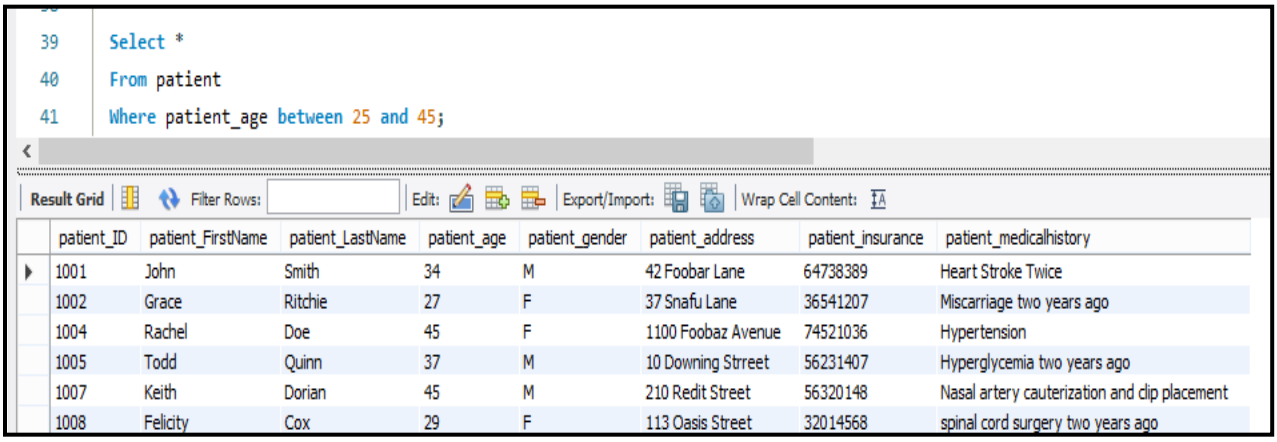
QUERY: SELECT * FROM appointment.appointment WHERE consultancy_fees > 250

RESULT:



Question: Which patients are between 25 and 45?

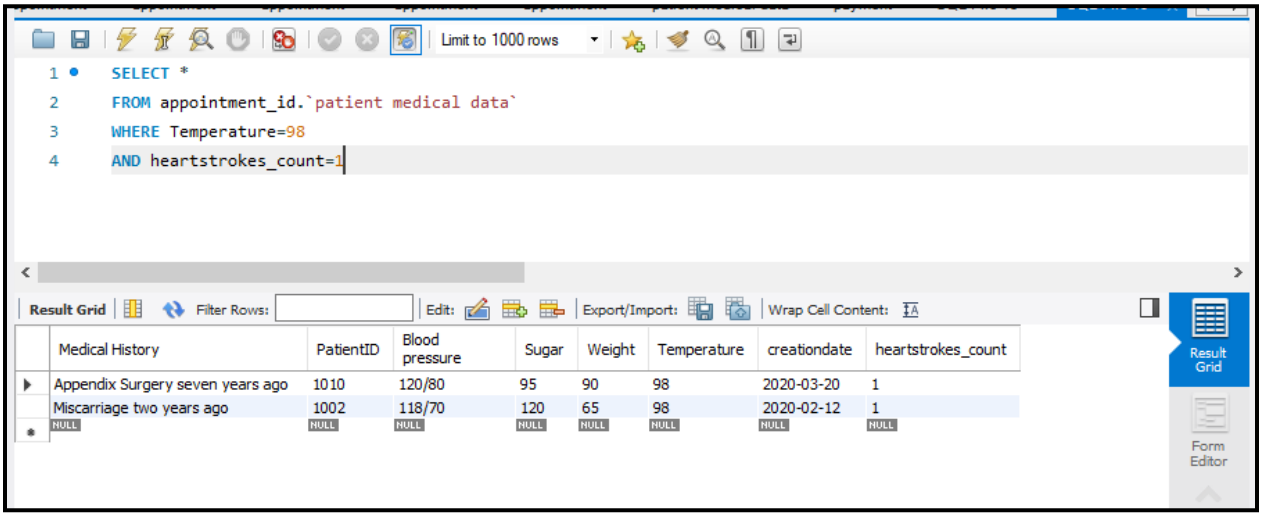
QUERY:
Select *
From patient
Where patient_age **between** 25 and 45;



Which patients have a Temperature of 98 and only 1 Stroke?

QUERY:
SELECT *
FROM appointment_id.`patient medical data`
WHERE Temperature=98
AND heartstrokes_count=1

RESULT:



CONCLUSION:

Hence, we can say that, Hospital Management System is inevitable part of modern medical lifecycle as it is used for the automation of numerous day-to-day operations and enables smooth flow of interactions of users. This is a great opportunity to create distinct, fast and efficient health care model. This is a beneficial decision a hospital could make to cover the needs of patients, staff and hospital authorities to simplify their interactions.