Hospital management system

Name: Rajesh kushwah

Email: rajeshkushwah04.rk@gmail.com

**HMS Project Structure**

1. **Database Creation Script:**
   * Create a SQL script to generate the database schema and initial data.
   * Tables
   * Appointment
   * Doctor
   * Patients
   * PatientsAttendAppointments
   * Medical history
   * PatientFillHistory
   * Medicine Cost

Queries to Solve within the HMS Structure

* Find the names of patients who have attended appointments scheduled by Dr. John Doe.
* Calculate the average age of all patients.
* Create a stored procedure to get the total number of appointments for a given patient.
* Create a trigger to update the appointment status to 'Completed' when the appointment date has passed.
* Find the names of patients along with their appointment details and the corresponding doctor's name.
* Find the patients who have a medical history of diabetes and their next appointment is scheduled within the next 7 days.
* Find patients who have multiple appointments scheduled.
* Calculate the average duration of appointments for each doctor.
* Find Patients with Most Appointments
* Calculate the total cost of medication for each patient.
* Create a stored procedure named CalculatePatientBill that calculates the total bill for a patient based on their medical history and medication costs. The procedure should take the PatientID as a parameter and calculate the total cost by summing up the medication costs and applying a charge of $50 for each surgery in the patient's medical history. If the patient has no medical history, the procedure should still return a basic charge of $50.

Note: Kindly create a Docx file and paste the queries there with a short brief as a conclusion para, and also keep your SQL server open at the time of presentation.

Kindly Paste your Queries Here

create database HMS

use hms

create table patienttable

(PatientID varchar(20),

Fname varchar(20),

Lname varchar(20),

Contact int,

Age int

)

insert into patienttable

values('P0001','John','Doe',123-456-7890,35),

('P0002','Jane','Smith',987-654-3210,25),

('P0003','michael','johson',555-555-555,62),

('P0004','David','Lee',111-222-3333,33),

('P0005','Sarah','Brown',444-555-6666,21),

('P0006','John','Doe',777-888-9999,28),

('P0007','Jane','Smith' ,333-222-1111,30),

('P0008','Michael','Johnson',666-777-8888,41),

('P0009','David','Lee',999-888-7777,41),

('P0010','Sarah','Brown',222-333-4444,60)

select \* from patienttable

create table Doctortable

(DoctorID varchar(20),Fname varchar(20),Lname varchar(20),

Speciality varchar(20), ContactEmail varchar(30)

)

insert into Doctortable

values('D0001','Dr. John','Doe','General Physician','john.doe@example.com'),

('D0002','Dr. Jane','Smith','Pediatrician','jane.smith@example.com'),

('D0003','Dr. Michael', 'Johnson','Cardiologist','michael.j@example.com')

select \* from Doctortable

create table Appointment

(AppointmentID varchar(30), PatientID varchar(30), DoctorID varchar(30),

Dates datetime , EndTime datetime, Status varchar(20),

)

iNSERT INTO Appointment

VALUES

('A0001', 'P0001', 'D0001', '2023-11-07 10:00', '2023-11-07 11:15', 'Scheduled'),

('A0002', 'P0002', 'D0002', '2023-11-08 11:00', '2023-11-08 12:06', 'Completed'),

('A0003', 'P0003', 'D0003', '2023-11-09 12:00', '2023-11-09 13:21', 'Cancelled'),

('A0004', 'P0002', 'D0001', '2023-11-10 13:00', '2023-11-10 14:17', 'Scheduled'),

('A0005', 'P0005', 'D0002', '2023-11-11 14:00', '2023-11-11 15:45', 'Completed'),

('A0006', 'P0006', 'D0003', '2023-11-12 15:00', '2023-11-12 16:15', 'Cancelled'),

('A0007', 'P0007', 'D0001', '2023-11-13 16:00', '2023-11-13 17:09', 'Scheduled'),

('A0008', 'P0008', 'D0002', '2023-11-14 17:00', '2023-11-14 18:29', 'Completed'),

('A0009', 'P0004', 'D0003', '2023-11-15 18:00', '2023-11-15 19:11', 'Cancelled'),

('A0010', 'P0010', 'D0001', '2023-11-16 19:00', '2023-11-16 20:05', 'Scheduled')

select \* from Appointment

create table PatientsAttendAppointments

(PatientID varchar(20), AppointmentID varchar(20)

)

insert into PatientsAttendAppointments

values

('P0001','A0001'),

('P0002','A0002'),

('P0003','A0003'),

('P0004','A0004'),

('P0005','A0005'),

('P0006','A0006'),

('P0007','A0007'),

('P0008','A0008'),

('P0009','A0009'),

('P0010','A0010'),

('P0001','A0004'),

('P0002','A0005'),

('P0003','A0006')

select \* from PatientsAttendAppointments

create table MedicalHistory

(HistoryID varchar(20), PatientID varchar(20), Dates datetime, Condition varchar(20),

Surgeries varchar(20), Medication varchar(20)

)

insert into MedicalHistory

values('H0001','P0001','01-11-2023 08:00','Hypertension','Appendectomy','Lisinopril'),

('H0002','P0002','02-11-2023 09:00','Diabetes','None','Metformin'),

('H0003','P0003','03-11-2023 10:00','Asthma','Tonsillectomy','Albuterol'),

('H0004','P0004','04-11-2023 11:00','Migraine', 'Appendectomy', 'Ibuprofen'),

('H0005','P0005','05-11-2023 12:00','Diabetes' ,'None','Insulin'),

('H0006','P0006','06-11-2023 13:00','Asthma','Tonsillectomy','Albuterol'),

('H0007','P0007','07-11-2023 14:00','Hypertension', 'Appendectomy','Lisinopril'),

('H0008','P0008','08-11-2023 15:00','Diabetes','None','Metformin'),

('H0009','P0009','09-11-2023 16:00','Asthma','Tonsillectomy','Albuterol'),

('H0010','P0010','10-11-2023 17:00' ,'Migraine','Appendectomy', 'Ibuprofen')

truncate table MedicalHistory

select \* from MedicalHistory

create table PatientsFillHistory

(PatientID varchar(20), HistoryID varchar(20),DateFilled datetime

)

INSERT INTO PatientsFillHistory

VALUES

('P0001', 'H0001', '2023-11-04 08:30'),

('P0002', 'H0002', '2023-11-05 09:45'),

('P0003', 'H0003', '2023-11-06 10:30'),

('P0004', 'H0004', '2023-11-07 11:15'),

('P0005', 'H0005', '2023-11-08 12:45'),

('P0006', 'H0006', '2023-11-09 13:30'),

('P0007', 'H0007', '2023-11-10 14:15'),

('P0008', 'H0008', '2023-11-11 15:45'),

('P0009', 'H0009', '2023-11-12 16:30'),

('P0010', 'H0010', '2023-11-13 17:15')

select \* from PatientsFillHistory

create table Medication\_Cost

(Medication varchar(20),Cost\_in$ int )

insert into Medication\_Cost

values('Lisinopril' ,10),

('Metformin',15),

('Albuterol',12),

('Ibuprofen',8),

('Insulin', 20)

use HMS

select \* from patienttable

select \* from Doctortable

select \* from Appointment

select \* from PatientsAttendAppointments

select \* from MedicalHistory

select \* from Medication\_Cost

-----1 Find the names of patients who have attended appointments scheduled by Dr. John Doe.

select \* from patienttable

select \* from Appointment

select concat(p.Fname,' ',p.lname) from patienttable p

join Appointment a on p.PatientID=a.PatientID

where a.DoctorID='D0001'

---2 .Calculate the average age of all patients.

select \* from patienttable

select Fname,Lname ,avg(age) 'Average\_age' from patienttable

group by fname,lname

----3.Create a stored procedure to get the total number of appointments for a given patient.\*

select \* from Appointment

create procedure appointments

as

Begin

select p.Fname,p.Lname,a.PatientID,count(a.patientID) 'Total\_appointment' from patienttable p

join Appointment a on p.patientID=a.PatientID

group by p.Fname,p.Lname,a.PatientID

order by a.PatientID

end

Execute appointments

----4.Find the names of patients along with their appointment details and the corresponding doctor's name

select \* from patienttable

select \* from Doctortable

select \* from Appointment

select concat(p.Fname,' ',p.Lname) 'Patient\_name',p.age as 'Age of patient',d.Fname 'Doctor\_name'from patienttable p

join Appointment a on p.PatientID=a.PatientID

join Doctortable d on d.DoctorID=a.DoctorID

----5.Find the patients who have a medical history of diabetes and

-----their next appointment is scheduled within the next 7 days.

select \* from patienttable

select \* from Doctortable

select \* from Appointment

select \* from MedicalHistory

select concat(p.fname,' ',p.lname) 'name of patient',m.Condition from patienttable p

join MedicalHistory m on p.PatientID=m.PatientID

join Appointment a on p.PatientID=a.PatientID

where m.condition='Diabetes' and DATEDIFF(day,a.Dates,a.Endtime)<=7

----6.Find patients who have multiple appointments scheduled.

select \* from patienttable

select \* from Appointment

select concat(p.Fname,' ',p.lname) 'Patient name',count(a.patientID) 'No of Appointment' from patienttable p

join Appointment a on p.PatientID=a.PatientID

group by concat(p.Fname,' ',p.lname)

having count(\*)>1

order by [No of Appointment] desc

---7.Calculate the average duration of appointments for each doctor.

select \* from Doctortable

select \* from Appointment

select DoctorID,avg(datediff(MINUTE,dates,endtime))'Average\_appointments\_time' from Appointment

group by DoctorID

-----8. Find Patients with Most Appointments

select \* from patienttable

select \* from Appointment

select concat(p.fname,' ',p.lname) 'patient\_name',count(a.patientid)'most\_appointments' from patienttable p

join Appointment a on p.PatientID=a.PatientID

group by concat(p.fname,' ',p.lname)

order by most\_appointments desc

--- NOTE\*\*\*\*\*\* Most Appointments person is jane smith is 3 appointment

----9 .Calculate the total cost of medication for each patient.

select \* from patienttable

select \* from MedicalHistory

select \* from Medication\_Cost

select p.fname,m.patientID,mc.cost\_in$ 'Total\_cost\_of\_medication\_in\_$' from MedicalHistory m

join Medication\_Cost mc on m.Medication=mc.medication

join patienttable p on m.PatientID=p.PatientID

order by Total\_cost\_of\_medication\_in\_$ desc