



## 19ELC312 Database Systems and Programming

**Team Number: 01**

**Title:** Medical Record maintenance

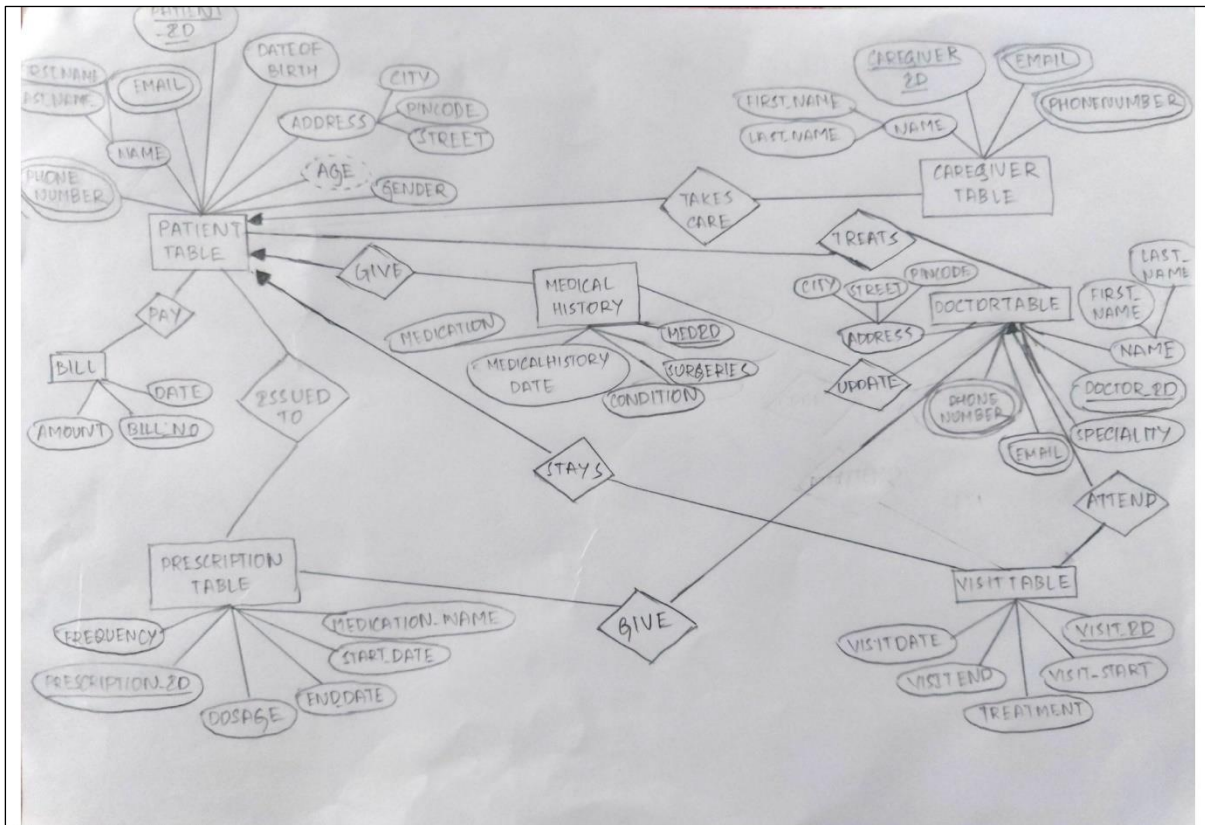
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**ER DIAGRAM:**

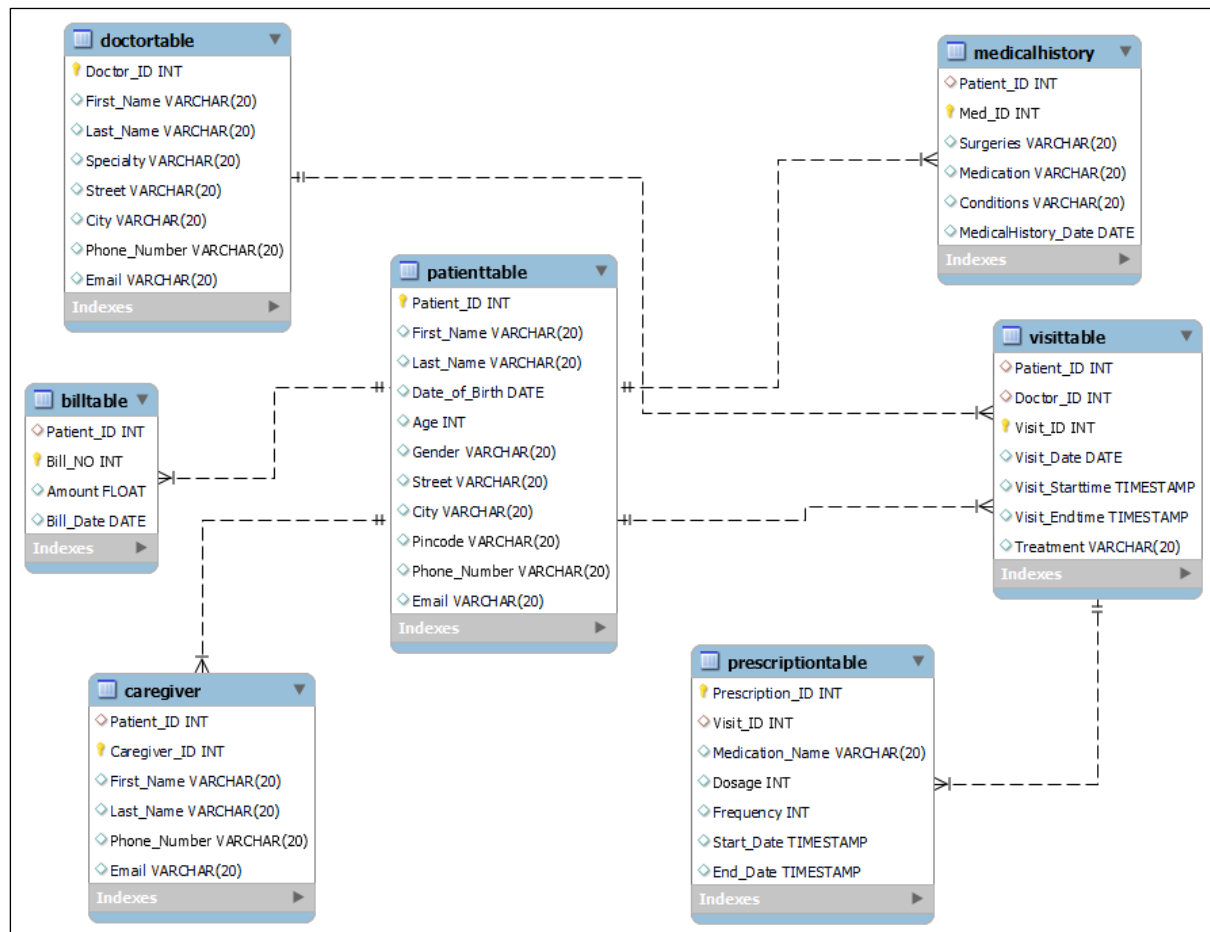


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## LIST OF ENTITIES = 7

- Patient table
- Caregiver table
- Prescription table
- Bill
- Visit table
- Doctor table
- Medical table

## RELATIONAL SCHEMA:



## LEGEND:

Yellow Bulb – Primary Key

Faint Red Diamond – Foreign Key

Faint Blue Diamond – Attributes

- PatientTable(Patient\_ID (primary key),First\_Name,Last\_Name,Date\_of\_Birth,Age,Gender,Street,City,Pincode,Phone\_Number,Email)
- Caregiver Table (Patient\_ID(foreign key referencing from patient table),Caregiver\_ID(Primary key),First\_Name,Last\_Name,Phone\_Number,Email)
- Medical History(Patient\_ID(foreign key referencing from patient table),Med\_ID(Primary key),Surgeries ,Medication, Conditions,Date.)
- Doctor Table(Doctor\_ID (primary key),First\_Name,Last\_Name,Specialty,Address,Street,City,Phone\_Number,Email)
- Visit Table(Visit\_ID (primary key),Patient\_ID (foreign key referencing Patient table),Doctor\_ID (foreign key referencing Doctor table),Visit\_Date,Visit\_End time,Visit\_Start time,Treatment)
- Prescription Table(Prescription\_ID (primary key),Visit\_ID (foreign key referencing Visit table),Medication\_Name,Dosage,Frequency,Start\_Date,End\_Date)

- Bill(Patient\_ID(foreign key referencing from patient table),Bill\_NO(primary key),Amount,Bill\_Date)

### SQL CODE:

```
CREATE TABLE PatientTable (  
    Patient_ID INT PRIMARY KEY,  
    First_Name VARCHAR(20),  
    Last_Name VARCHAR(20),  
    Date_of_Birth DATE,  
    Age INT,  
    Gender VARCHAR(20),  
    Street VARCHAR(20),  
    City VARCHAR(20),  
    Pincode VARCHAR(20),  
    Phone_Number VARCHAR(20),  
    Email VARCHAR(20)  
);
```

```
INSERT INTO PatientTable values(01,'Kural','Anbu',date '2002-07-21',20,'Male','3rd street','Coimbatore','641615','9786542316','kural@gmail.com')
```

```
INSERT INTO PatientTable values(02,'Harish','S',date '2001-11-17',21,'Male','2nd street','Chennai','641002','7806512239','harish007@gmail.com')
```

```
INSERT INTO PatientTable values(03,'Aathil','M',date '2003-04-09',20,'Male','2nd cross street','Salem','641668','7129400632','aathil@gmail.com')
```

```
INSERT INTO PatientTable values(04,'Sai','Krishna',date '1999-06-27',23,'Male','Amrita street','Coimbatore','641605','7080420158','saikrishna@gmail.com')
```

## RESULT:

PATIENT_ID	FIRST_NAME	LAST_NAME	DATE_OF_BIRTH	AGE	GENDER	STREET	CITY	PINCODE	PHONE_NUMBER	EMAIL
1	Kural	Anbu	21-JUL-02	20	Male	3rd street	Coimbatore	641 615	9786542316	kural@gmail.com
2	Harish	S	17-NOV-01	21	Male	2nd street	Chennai	641 002	7806512239	harish007@gmail.com
3	Aathil	M	09-APR-03	20	Male	2nd cross street	Salem	641 668	7129400632	aathil@gmail.com
4	Sai	Krishna	27-JUN-99	23	Male	Amrita street	Coimbatore	641 605	7080420158	saikrishna@gmail.com

```
CREATE TABLE Caregiver (  
    Patient_ID INT,  
    Caregiver_ID INT PRIMARY KEY,  
    First_Name VARCHAR(20),  
    Last_Name VARCHAR(20),  
    Phone_Number VARCHAR(20),  
    Email VARCHAR(20),  
    FOREIGN KEY (Patient_ID) REFERENCES  
PatientTable(Patient_ID)  
);
```

```
INSERT INTO Caregiver  
values(03,21,'Kavi','KP','9766818526','kavi@gamil.com')
```

```
INSERT INTO Caregiver  
values(01,22,'Sudarshan','S','9557102807','sudarshan@gamil.com  
' )
```

```
INSERT INTO Caregiver  
values(02,23,'Nerik','S','7991460406','nerik@gamil.com')
```

```
INSERT INTO Caregiver  
values(04,24,'Anish','Krishna','9687933225','anish@gamil.com')
```

## RESULT:

PATIENT_ID	CAREGIVER_ID	FIRST_NAME	LAST_NAME	PHONE_NUMBER	EMAIL
3	21	Kavi	KP	9766818526	kavi@gamil.com
1	22	Sudarshan	S	9557102807	sudarshan@gamil.com
4	24	Anish	Krishna	9687933225	anish@gamil.com
2	23	Nerik	S	7991460406	nerik@gamil.com

```
CREATE TABLE MedicalHistory (  
    Patient_ID INT,  
    Med_ID INT PRIMARY KEY,  
    Surgeries VARCHAR(20),  
    Medication VARCHAR(20),  
    Conditions VARCHAR(20),  
    MedicalHistory_Date DATE,  
    FOREIGN KEY (Patient_ID) REFERENCES  
    PatientTable(Patient_ID)  
);
```

```
INSERT INTO MedicalHistory VALUES(01,31, 'Bypass surgery',  
'Metoprolol', 'Angina',date '2023-05-02');  
  
INSERT INTO MedicalHistory VALUES(02,33,'Thyroidectomy',  
'Levothyroxine', 'Thyroid disorder',date '2023-04-30');  
  
INSERT INTO MedicalHistory VALUES(03,32, 'Chemotherapy',  
'Tamoxifen', 'Breast cancer',date '2023-04-27');  
  
INSERT INTO MedicalHistory VALUES(04,34,'Knee replacement',  
'Ibuprofen', 'Joint pain',date '2023-04-29');
```

## RESULT:

PATIENT_ID	MED_ID	SURGERIES	MEDICATION	CONDITIONS	MEDICALHISTORY_DATE
1	31	Bypass surgery	Metoprolol	Angina	02-MAY-23
2	33	Thyroidectomy	Levothyroxine	Thyroid disorder	30-APR-23
3	32	Chemotherapy	Tamoxifen	Breast cancer	27-APR-23
4	34	Knee replacement	Ibuprofen	Joint pain	29-APR-23

```
CREATE TABLE DoctorTable (  
    Doctor_ID INT PRIMARY KEY,  
    First_Name VARCHAR(20),  
    Last_Name VARCHAR(20),  
    Specialty VARCHAR(20),  
    Street VARCHAR(20),  
    City VARCHAR(20),  
    Phone_Number VARCHAR(20),  
    Email VARCHAR(20)  
);  
  
INSERT INTO DoctorTable VALUES (01, 'John', 'Smith',  
'Cardiology', '123 Main St', 'Anytown', '555-1234',  
'jsmith@example.com');  
  
INSERT INTO DoctorTable VALUES (02, 'Sarah', 'Jones',  
'Pediatrics', '456 Oak St', 'Othertown', '555-5678',  
'sjones@example.com');  
  
INSERT INTO DoctorTable VALUES (03, 'Michael', 'Nguyen',  
'Dermatology', '789 Elm St', 'Somewhere', '555-2468',  
'mnguyen@example.com');  
  
INSERT INTO DoctorTable VALUES (04, 'Emily', 'Kim', 'Family  
Medicine', '10 Maple St', 'Anytown', '555-3698',  
'ekim@example.com');
```

## RESULT:

DOCTOR_ID	FIRST_NAME	LAST_NAME	SPECIALTY	STREET	CITY	PHONE_NUMBER	EMAIL
1	John	Smith	Cardiology	123 Main St	Anytown	555-1234	jsmith@example.com
2	Sarah	Jones	Pediatrics	456 Oak St	Othertown	555-5678	sjones@example.com
3	Michael	Nguyen	Dermatology	789 Elm St	Somewhere	555-2468	mnguyen@example.com
4	Emily	Kim	Family Medicine	10 Maple St	Anytown	555-3698	ekim@example.com

```
CREATE TABLE VisitTable (  
    Patient_ID INT,  
    Doctor_ID INT,  
    Visit_ID INT PRIMARY KEY,  
    Visit_Date DATE,  
    Visit_Starttime TIMESTAMP,  
    Visit_Endtime TIMESTAMP,  
    Treatment VARCHAR(20),  
    FOREIGN KEY (Patient_ID) REFERENCES  
PatientTable(Patient_ID),  
    FOREIGN KEY (Doctor_ID) REFERENCES DoctorTable(Doctor_ID)  
);
```

```
INSERT INTO VisitTable VALUES(01,02,11,date '2023-05-  
01',TIMESTAMP'2023-05-01 13:00:00',TIMESTAMP'2023-05-01  
14:00:00','Bypass surgery')
```

```
INSERT INTO VisitTable VALUES(02,03,12,date '2023-04-  
11',TIMESTAMP'2023-04-11 12:00:00',TIMESTAMP'2023-04-11  
14:00:00','Thyroidectomy')
```

```
INSERT INTO VisitTable VALUES(03,04,13,date '2023-11-  
21',TIMESTAMP'2023-11-21 11:00:00',TIMESTAMP'2023-11-21  
13:00:00','Chemotherapy')
```

```
INSERT INTO VisitTable VALUES(04,01,14,date '2023-01-  
12',TIMESTAMP'2023-01-12 09:00:00',TIMESTAMP'2023-01-12  
12:00:00','Knee replacement')
```



## RESULT:

PATIENT_ID	DOCTOR_ID	VISIT_ID	VISIT_DATE	VISIT_STARTTIME	VISIT_ENDTIME	TREATMENT
2	3	12	11-APR-23	11-APR-23 12.00.00.000000 PM	11-APR-23 02.00.00.000000 PM	Thyroidectomy
3	4	13	21-NOV-23	21-NOV-23 11.00.00.000000 AM	21-NOV-23 01.00.00.000000 PM	Chemotherapy
1	2	11	01-MAY-23	01-MAY-23 01.00.00.000000 PM	01-MAY-23 02.00.00.000000 PM	Bypass surgery
4	1	14	12-JAN-23	12-JAN-23 09.00.00.000000 AM	12-JAN-23 12.00.00.000000 PM	Knee replacement

```
CREATE TABLE PrescriptionTable (  
    Prescription_ID INT PRIMARY KEY,  
    Visit_ID INT,  
    Medication_Name VARCHAR(20),  
    Dosage INT,  
    Frequency INT,  
    Start_Date TIMESTAMP,  
    End_Date TIMESTAMP,  
    FOREIGN KEY (Visit_ID) REFERENCES VisitTable(Visit_ID)  
);
```

```
INSERT INTO PrescriptionTable VALUES (51, 11, 'Aspirin', 50,  
2,TIMESTAMP '2023-05-01 08:00:00',TIMESTAMP '2023-05-05  
08:00:00')
```

```
INSERT INTO PrescriptionTable VALUES (52, 12, 'Amoxicillin',  
250, 3,TIMESTAMP '2023-04-28 09:00:00',TIMESTAMP '2023-05-03  
09:00:00')
```

```
INSERT INTO PrescriptionTable VALUES (53, 13, 'Ibuprofen',  
200, 1,TIMESTAMP '2023-05-01 12:00:00',TIMESTAMP '2023-05-04  
12:00:00')
```

```
INSERT INTO PrescriptionTable VALUES (54, 14, 'Metformin',  
500, 2,TIMESTAMP '2023-04-30 18:00:00',TIMESTAMP '2023-05-07  
18:00:00')
```

## RESULT:

PRESCRIPTION_ID	VISIT_ID	MEDICATION_NAME	DOSAGE	FREQUENCY	START_DATE	END_DATE
51	11	Aspirin	50	2	01-MAY-23 08.00.00.000000 AM	05-MAY-23 08.00.00.000000 AM
53	13	Ibuprofen	200	1	01-MAY-23 12.00.00.000000 PM	04-MAY-23 12.00.00.000000 PM
52	12	Amoxicillin	250	3	28-APR-23 09.00.00.000000 AM	03-MAY-23 09.00.00.000000 AM
54	14	Metformin	500	2	30-APR-23 06.00.00.000000 PM	07-MAY-23 06.00.00.000000 PM

```
CREATE TABLE BillTable(  
    Patient_ID INT,  
    Bill_NO INT PRIMARY KEY,  
    Amount FLOAT,  
    Bill_Date DATE,  
    FOREIGN KEY (Patient_ID) REFERENCES  
PatientTable(Patient_ID)  
);
```

```
INSERT INTO BillTable VALUES (01, 61, 150.50,date '2023-05-  
01')
```

```
INSERT INTO BillTable VALUES (04, 65, 750.25,date '2023-05-  
02')
```

```
INSERT INTO BillTable VALUES (02, 62, 2000.00,date '2023-04-  
28')
```

```
INSERT INTO BillTable VALUES (03, 69, 300.00,date '2023-05-  
03')
```

## RESULT:

PATIENT_ID	BILL_NO	AMOUNT	BILL_DATE
1	61	150.5	01-MAY-23
4	65	750.25	02-MAY-23
2	62	2000	28-APR-23
3	69	300	03-MAY-23

## SAMPLE QUERIES:

--TO PRINT VISIT TABLE:

### QUERY:

```
select *from VisitTable;
```

### RESULT:

PATIENT_ID	DOCTOR_ID	VISIT_ID	VISIT_DATE	VISIT_ENDTIME	VISIT_STARTTIME	TREATMENT
2	3	12	11-APR-23	11-APR-23 12.00.00.000000 PM	11-APR-23 02.00.00.000000 PM	Thyroidectomy
3	4	13	21-NOV-23	21-NOV-23 11.00.00.000000 AM	21-NOV-23 01.00.00.000000 PM	Chemotherapy
4	1	14	12-JAN-23	12-JAN-23 09.00.00.000000 AM	12-JAN-23 12.00.00.000000 PM	Knee replacement
1	2	11	01-MAY-23	01-MAY-23 01.00.00.000000 PM	01-MAY-23 02.00.00.000000 PM	Bypass surgery

--TO DISPLAY COUNT OF NUMBER OF PATIENTS:

### QUERY:

```
select COUNT(Patient_ID)from Patienttable;
```

### RESULT:

COUNT(PATIENT_ID)
4

--TO DISPLAY DETAILS OF PATIENTS AND DOCTOR:

### QUERY:

```
SELECT p.First_Name,d.First_Name  
FROM PatientTable p  
JOIN VisitTable v ON p.Patient_ID = v.Patient_ID  
JOIN DoctorTable d ON v.Doctor_ID = d.Doctor_ID;
```

### RESULT:

FIRST_NAME	FIRST_NAME
Sai	John
Kural	Sarah
Harish	Michael
Aathil	Emily

--TO DISPLAY PATIENT DETAILS WHERE AGE GREATER THAN 20:

### QUERY:

```
SELECT * from PatientTable where Age>20;
```

### RESULT:

PATIENT_ID	FIRST_NAME	LAST_NAME	DATE_OF_BIRTH	AGE	GENDER	STREET	CITY	PINCODE	PHONE_NUMBER	EMAIL
2	Harish	S	17-NOV-01	21	Male	2nd street	Chennai	641 002	7806512239	harish007@gmail.com
4	Sai	Krishna	27-JUN-99	23	Male	Amrita street	Coimbatore	641 605	7080420158	saikrishna@gmail.com

--TO DISPLAY BILL DETAILS WHERE AMOUNT GREATER 500 AND BILL DATE LESS THAN 2023-05-01:

### QUERY:

```
SELECT *FROM BillTable WHERE Amount > 500 AND Bill_Date < DATE '2023-05-01';
```

### RESULT:

PATIENT_ID	BILL_NO	AMOUNT	BILL_DATE
2	62	2000	28-APR-23