Assignment 2

Task:-1

ER Diagram:-

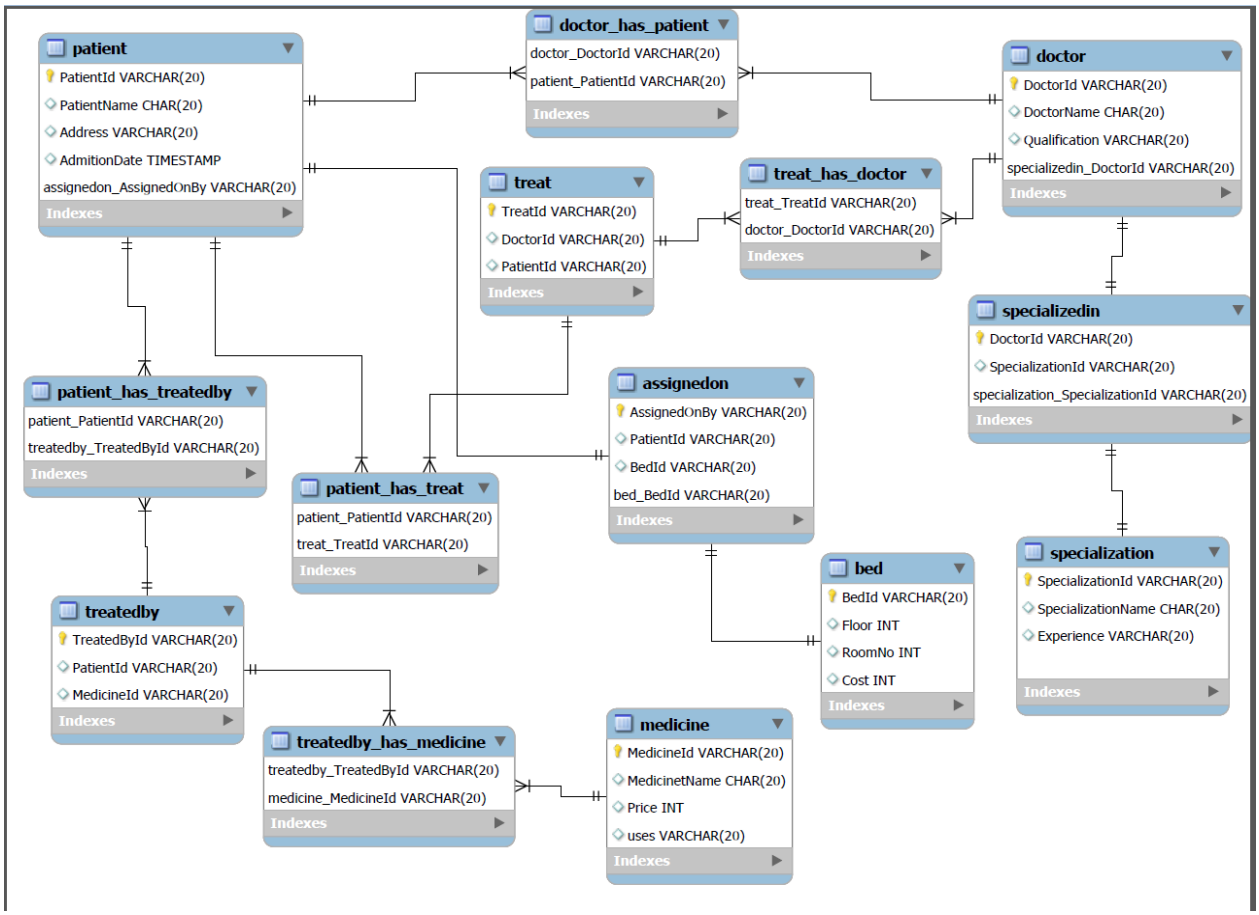
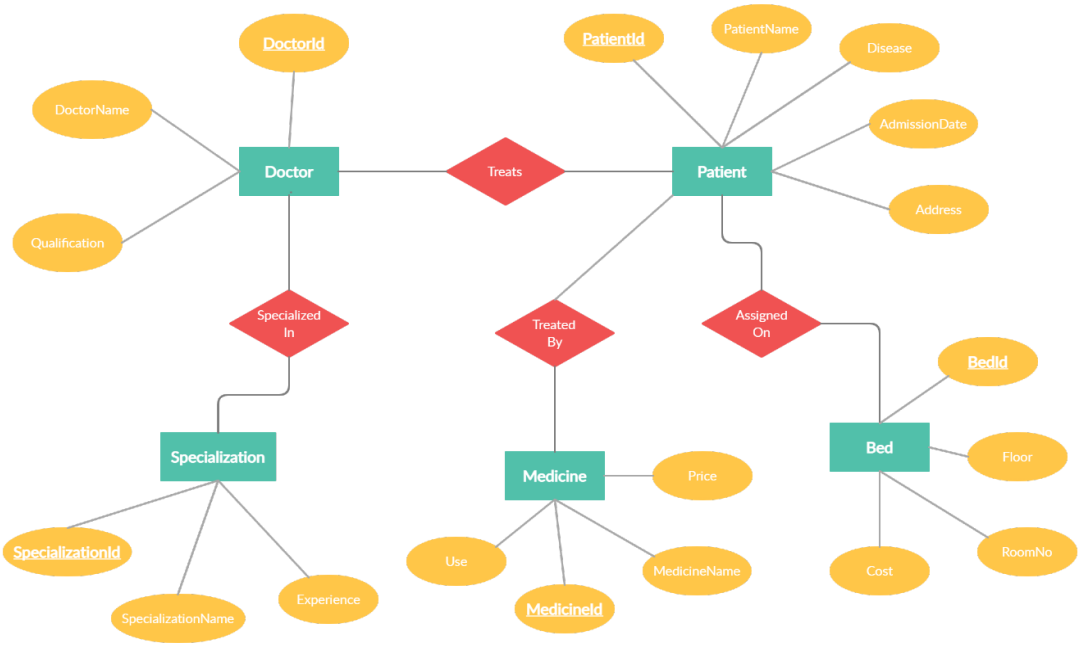
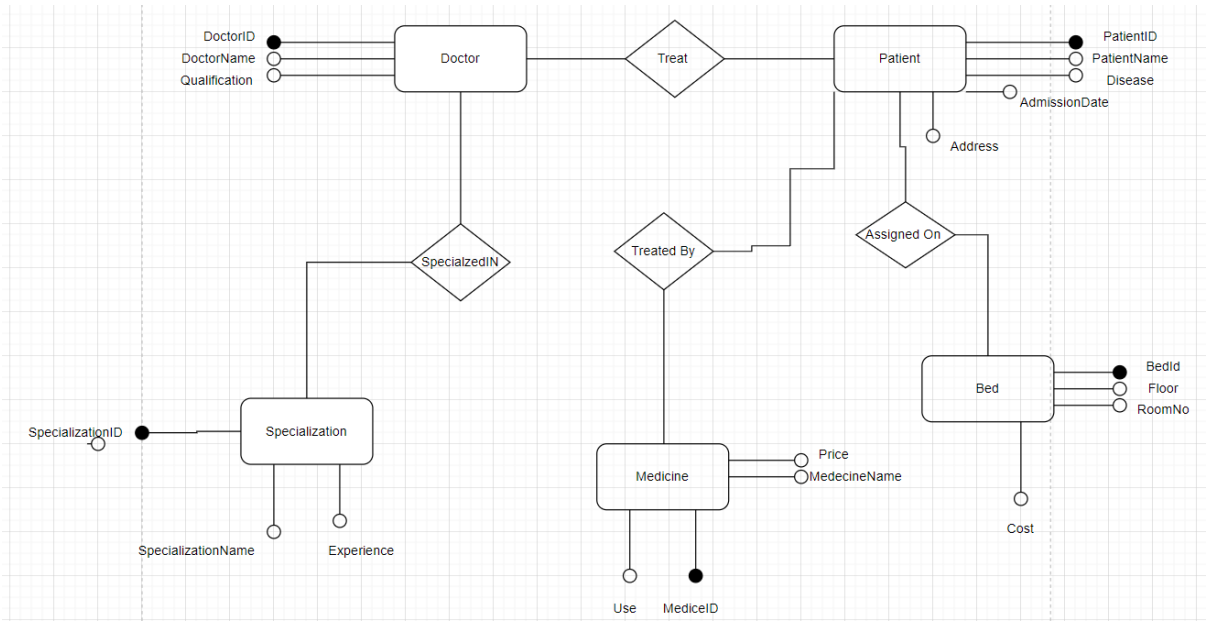


Diagram drawn :



Another diagram:



The one that are underlined are primary key in the diagram.

Task:-2

As one doctor can treat many patients and many doctors can treat one patient in some cases, so we have used many to many relations between doctor, patient and treat.

As one patient can be treated by many medicine and one medicine can be taken by many patients ,so here also we have used many to many relations between medicine, patient, treated by.

As one doctor will be specialized in one and only one matter so doctor and specialized in will be one to one relation and specialized in and specialization will also be in one to one relation.

As one patient will be allocated only one bed then there will be a one to one relation between patient, assigned on and bed.

Short Description on Entities and attributes of the entities:

Doctor:-

The details of the Doctors are stored in the different attributes of Doctor Entity.

1. DoctorId- This is used to describe the Id of a Doctor.
2. DoctorName-This is used to store the names of the Doctors
3. Qualification- This stores the Qualification of the Doctors.

Specialization:-

The Specialization of the doctors are stored in this Entity.

1. SpecializationId-This is used to store the Id of the Specialization of a Doctor
2. SpecializationName :- This stores in which the doctor is specialized in.
3. Experience:-The number of years he is doing this specialized job is stored here.

Patient:-

Here the details of Patients are stored.

1. PatientId- This is used to store the Id of the Patient.
2. PatientName-It stores the name of the Patient.
3. Address- This stores the address of the patient.
4. AdmitionDate- here we store the admission date of the patient.

Medicine:-

Here the details of the Medicines are stored.

1. MedicineId- This is used to store the Id of the Medicine.
2. MedicineName- This attribute stores the name of the Medicine.
3. Price - It stores the price of the medicine.
4. uses- It stores the use of the medicines(for which disease this medicine is used)

Bed:-

This entity is used to store the details of the Beds allocated to the patients.

1. BedId- This is used to store the ID number of the beds.
2. Floor- This stores in which the floor the bed is placed.
3. RoomNo- This stores in which room the bed is placed.
4. Cost- This stores the bed charges for each bed.

SpecializedIn:- This is used to connect between the specialization and Doctor entity.

This stores the info about which doctor is specialized in which specialization.

Treat:- This entity stores the Treatment Record about doctors , patients.

1. TreatId- This stores the ID of Treatment.
2. DoctorId - Stores the doctor id for treatment.
3. PatientId- Stores the Patient id for treatment.

TreatedBy:-

This is used to store the records of which patient is treated by which doctor and which medicine.

1. TreatedById:-This stores the ID of TreatedBy.
2. PatientId- Stores the id of the patient who is treated.

3. MedicineId- Stores the id for the medicine by which the patient is treated.

AssignedOn:-

This stores the record of the patients and the beds which are assigned to specific patients.

1. AssignedOnBy:- This stores the record by which the beds are assigned.
2. PatientId:- This stores the record of the patients which are admitted.
3. BedId:- This stores the bed ids which are assigned to the specific patients.

Task:- 3

Relational Schema:

Doctor(DoctorId (primary key), DoctorName, Qualification);

Specialization(SpecializationId (primary key), SpecializationName , Experience);

Patient(PatientId (primary key), PatientName, Address,AdmitionDate);

Medicine(MedicineId (primary key), MedicineName, Price ,uses);

Bed(BedId (primary key), Floor, RoomNo,Cost);

SpecializedIn(DoctorId (primary key), SpecializationId(Foreign key));

Treat(TreatId (primary key), DoctorId ,PatientId);

TreatedBy(TreatedById (primary key),PatientId(Foreign key), MedicineId(Foreign key));

AssignedOn(AssignedOnBy (primary key),PatientId(Foreign key),BedId(Foreign key));

Task:- 4

The most frequently issued queries in this database are –

i) All doctor names who treat cancer.

ii)Doctor specialized in which subject treats covid-19.

iii) Beds which cost are maximum.

iv) Doctors who have more than 10 years of experience.

Task:- 5

All Doctor names who treat cancer:-

Select DoctorName from Doctor where DoctorID in (Select DoctorId from Treats where PatientId (Select PatientId from Patient where Disease = 'Cancer'));

Doctors specialized in which subject treats Covid -19:-

Select SpecializationName from Specialization where SpecializationID in (Select SpecializationID from SpecializedIn where DoctorID in (Select DoctorID from Doctor where DoctorID in (Select DoctorID from Treats where PatientID in(Select PatientID from Patient where Disease='Covid-19'))));

Beds which cost are maximum:-

Select * from Bed where Cost=max(Cost);

Doctors who have more than 10 years of experience:

Select * from Doctor where Experience > 10