

**Hospital Database**

Prepared by

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# Business Requirements

## Patient

* We have a set of patients each patient has unique id, first name, last name, gender, date of birth, diagnosis, address, unique email.
* Each patient is can be examined by multiple doctors and we store examine date and the diagnosis.
* Each patient can perform any number of operations.
* each patient can stay in a room and we store entry and leaving date.

## Doctor

* Each doctor has unique id, first name, last name, degree which is one of the following (Bachelor – Master - Doctoral), years of experience and specialization that he works in hospital.
* He can work only in one specialization.
* Doctor many manage specialization.
* Doctor many supervise many nurses
* Doctor can perform any number of operations
* Doctor also has a set of appointments marked with day (Sunday- Monday.. etc) and shift number from 1 to 6 and the clinic he will work at this shift.
* Doctor can examine any number of patients

## Specialization

* There are set of specialization in our hospital and it has unique name and the date that we launch this specialization in our hospital.
* Each specialization may have many clinics associated with it, but each clinic must belongs to one specialization.
* Specialization must be managed by one doctor.
* Specialization may have many number of doctors work in it.

## Clinic

* We have clinic unique id, name and floor number.

## Nurse

* We have set of nurses that has first name, last name, unique id.
* Each nurse may participate in operations many times.
* Each nurse may take care of may rooms.

## Operations

* Operation can be performed by more than one doctor one one patient only.
* We need to store operation description and date of the operation and clinic that the operation was done in.

# ERD

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# Mapping ERD to Logical Schema

Constrains other than Foreign key and Primary key that we derived by this image:

Patient:

* Email is unique.

Clinic:

* Specialization is not null

Doctor:

* Specialization, years of experience, degree is not null

Specialization:

* Manager\_id is not null

Appointment:

* Clinic\_id is not null

Nurse:

* Supervisor\_id is not null

We have to prevent doctor from choosing clinic that does not belong to his specialization.

We have to prevent assigning patients to a room that reached its maximum capacity.

# Normalization

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