**Group Number-7**

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**Lab Number-2 (27-08-2021)**

# Hospital Data Management System

## Scope of Database:

This is a database system allows you to access and store details of hospital and its medical facilities. Our task is to provide systematic record of patients, doctors, rooms and pharmaceutical drugs related to the hospital. Database requirements for the same are given below.

## Description/Requirements:

Database will contain primary details of patients, doctors, staff members and pharmacy.

- Hospital may have many patients identified with their unique id.
- Each patient will have name, dob, contact number, blood group, disease type, id, gender.
- There will be two types of patients: in patient and out patient, in patient will be assigned a room in hospital.
- Doctors will have name, mobile number, specialty, dob.
- Doctors might have one or more than one patient under their supervision.
- Staff will have id, name, mobile number, type and gender.
- Pharmacy will have data of id, name, stock, cost, company of medicines which are available in it.
- Data of laboratory checkup will be stored in the database. It will contain details such as report id, patient id, type of test, lab number and the charges.

- Database will also contain data of patients who have been donated blood.
- Bill will contain bill id, patient id, room charge, laboratory charge, operation charge and other charges.
- Every patient's charge of medicines will be saved in the database.
- Rooms will have their unique number, number of beds it has, number of patients.
- A room can have one or more than one patient depending on its type. It is possible that a room be vacant.
- More than one patient can be admitted to one room.
- If any operation happens in the hospital, then the details of the operation such as doctors evolved in it, patient, operation type, and its timing will be saved in the database.
- One patient can be treated by one or more than one doctor during an operation.
- Prescriptions mentioned by the doctors to the patients will be saved.
- All the data will be updated regularly by the operational staff.

## Entities

1) Inpatient

- Id (Adhaar number)
- name
- gender
- Mobile num
- Disease
- dob
- Blood group

2) Outpatient

- Id (Adhaar number)
- name

- gender
- Mobile num
- Disease
- dob
- Blood group

3) Doctor

- Id (Adhaar number)
- name
- Mobile num
- speciality
- Type
- Dob

4) Staff

- Id (Adhaar number)
- Name
- Gender
- Type
- Mobile number
- Dob

5) Pharmacy

- Medicine Id
- Medicine Name
- Stock before
- Stock after
- Company name
- Cost per unit
- Amount in a unit

- Date

6) Room

- Room no
- Date of admit
- Date of discharge
- Bed no
- Room no
- No of beds occupied
- No of beds
- Patient ids

7) Bill

- Bill id
- Patient id
- Room charge
- Lab charges
- Blood charges
- Doctor charges
- Nursing charges
- Operation charge

8) Lab Reports

- Type
- Lab No
- Patient id
- Charges
- Report id

9) Operation department

- Name
- Doctor ids
- Patient id
- Type
- charges
- End time
- Begin time
- date

10) Prescription

- Medicine id
- Medicine name
- Patient id
- Morning dose
- Noon dose
- Night dose
- From (date)
- To (date)

11) Blood Bank

- Patient id
- Blood group
- Amount given to patient
- Donor
- Charges (processing + donor)

## Relationships

1. Patient to room

2. Patient to report
3. Patient to doctor (Operation)
4. Doctor to Patient(prescription)

## Queries that the database system should be able to answer: (You can consider this as requirements from application user)

- Given a doctor, one can retrieve the data of patients which are being treated by him/her.
- One can get a list of patients with similar diseases.
- One can get to know if a particular medicine is available or not in the pharmacy and if available then we can also know in how much quantity it is available.
- Prescriptions mentioned by the doctors to the patients will be saved and will be accessible to patients and nurses.
- By entering an operation id one can get the details such as doctors who performed the operation and the patient who underwent the operation.
- Given a doctor id one can retrieve all the details of that doctor.
- Given a patient id one can find if he is currently admitted or not.
- One can find if a room has an empty bed or not.
- One can find patients who are given a particular medicine.
- By the patient ID, one can get the details of his/her lab tests.
- Using patient ID, one can find amount of blood transfused and the cost of it.