Enock Niyonkuru

April 27, 2023

CPSC 372

**Database Project: Hospital Database**

**Domain Description**

The Hospital Database is designed to store and manage information related to a typical hospital. This database will include information about a patient, doctor, nurse, and will help to monitor the hospital operations including doctor departments, bills paid and details regarding each patient. This will help to keep trac of each patient’s history when they visit the hospital again for the doctor to know the past prescriptions and visits. This database will also help in the finances of the hospital by managing how much patients paid and the budgets of departments. It will also help the administration of the hospital with logistics on how the rooms are being administered in the hospital, and the operations of doctors and nurses in the hospital.

**Entities and Relationships**

The Hospital Database will include several key entities, each of which will be related to one another in various ways. These entities include:

* Doctor: This table stores information about individual doctors, including their unique identifier, name, gender, age, phone number, office location, and salary.
* Department: This table contains data related to the different departments in the hospital, including their department name, building, and budget.
* Doctor\_Department: This table is a junction table that links doctors to the departments they work in. It contains the doctor ID and department name, allowing for efficient queries about which doctors work in which departments.
* Patient: This table stores data related to patients, including their unique identifier, name, gender, age, weight, and city. It is a crucial table for maintaining patient records and tracking their medical history.
* Inpatient: This table contains details of patients who have been admitted to the hospital, such as their patient ID, room number, admission, and discharge dates. It helps hospital staff monitor patient care and manage bed allocation.
* Outpatient: This table stores information about patients who visit the hospital for outpatient services. It includes their patient ID, the date of their visit. It is useful for tracking patient visits and managing appointments.
* Room: This table stores information about the various rooms available in the hospital, including their room number, type, and status. It helps hospital staff manage bed allocation and ensure that rooms are available for patients when needed.
* Prescription: This table stores information about prescriptions, including their unique identifier, the associated disease and symptom IDs, lab type, and medicine quantity. It helps hospital staff manage medication for patients and track their prescriptions.
* Bill: This table contains details of bills issued to patients, including their unique identifier, patient ID, service charge, number of days, and due date. It is useful for managing patient payments and tracking outstanding bills.
* Nurse: This table stores information about the hospital's nursing staff, including their unique identifier and name. It helps hospital staff manage nursing resources and track the availability of nurses.

Composite attribute: Patient Address

The Patient entity may have a composite attribute called Address which could be composed of multiple parts such as street name, city, state, and zip code. This composite attribute can be broken down into smaller components to help in better organization of data.

Multi-valued attribute: Prescription Symptoms

The Prescription entity may have a multi-valued attribute called Symptoms, which can contain a list of symptoms a patient has. This attribute can have multiple values and each value corresponds to a different symptom.

Descriptive attribute: Room Type

The Room entity may have a descriptive attribute called Type, which describes the type of room available in the hospital, such as ICU, general ward, private room, etc. This attribute describes a particular characteristic of the entity and can help in filtering data based on specific attributes.

**Link to the GitHub repository:**

<https://github.com/enockniyonkuru/hospital_database>