

Member:

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Database Concept

Entity	Relation	Attribute	Data Type	Constraint
Patient	Many to Many	PatientID (PK)	int	11
		DoctorID (FK)	int	11
		DiagnosisID (FK)	int	11
		RoomID (FK)	int	11
		PayID (FK)	int	11
		PatientName	varchar	100
		PatientDOB	date	-
		PatientGender	char	2
Doctor	One to Many	DoctorID (PK)	int	11
		DoctorName	varchar	100
		DoctorLicense	int	11
Diagnose	One to One	DiagnosisID (PK)	int	11
		PatientID (FK)	int	11
		DoctorID (FK)	int	11
		DiagnosisDate	date	-
		DiagnosisDescription	MEDIUMTEXT	200
Room	One to Many	RoomID (PK)	int	11
		PatientID (FK)	int	11
		RoomType	varchar	6
Payment	One to One	PayID (PK)	int	11
		PatientID (FK)	int	11
		PayTotal	int	11

1. Patient (Many to Many)

Each patient can have many relationships with other entities, the primary key patient entity is PatientID. A many-to-many relationship is appropriate because there can be multiple associations between patients and each of the related entities.

The relationship is:

- Patient and Doctor: A patient can consult with one doctor, and a doctor can treat multiple patients.

- Patient and Diagnoses: A patient has one diagnosis, and a diagnosis is owned by one patient.
- Patient and Room: A patient may be assigned to a room during recovery and a room may accommodate multiple patients.
- Patient and Payment: A patient has one payment and only one payment is assigned to that patient.

Meanwhile, the attributes are:

- PatientName: this attribute stores the name of the patient to be treated at the hospital.
- PatientDOB: this attribute stores the date of birth of the patient.
- PatientGender: this attribute stores the gender of the patient (Female/Male).

2. Doctor (One to Many)

Cardinality is a one-to-many relationship with another entity. The relationship is:

- Doctor – Patient: A doctor can have multiple patients, while each patient is associated with only one doctor.

Meanwhile, the attributes are:

- DoctorID (PK) : this attributes is Primary Key
- DoctorName : this attribute stores the name of the doctor
- DoctorLicense : this attribute stores the license information of the doctor, such as their medical license number

3. Diagnose (One to One)

Entity Diagnose: This entity represents the patient's diagnosis. The attributes we use include DiagnosisID (Primary Key), PatientID (Foreign Key), DoctorID (Foreign Key), DiagnosisDate, and DiagnosisDescription. With relationship:

- Diagnosis – Patient: There is a relationship between the diagnosis entity and the Patient entity. A patient can have many diagnoses, and each diagnosis is associated with a specific patient.
- Diagnosis – Doctor: There is a relationship between the diagnosis entity and the Physician entity. A doctor can diagnose various medical conditions, and each diagnosis is made by a specific doctor.

The attributes include:

- DiagnosisDate: The DiagnosisDate represents the date of diagnosis made for a specific patient. This's very important information because it helps track the timeline of medical conditions and provides insight into disease progression.
- DiagnosisDescription: The DiagnosisDescription represents the textual diagnosis. It provides additional details about the medical condition, its characteristics, symptoms, or other relevant information related to the diagnosis.

4. Room (One to Many)

Entity Room: The room entity represents the physical space inside a medical facility, such as a hospital or clinic. The attributes we use include RoomID (Primary Key), PatientD (Foreign Key), and Room Type. With Relationship:

- **Room - Patient:** There is a relationship between the Room entity and the Patient entity. A patient can be assigned to a specific room, and each room can accommodate multiple patients. This relationship is usually a one-to-many relationship, because one room can have many patients, but each patient is only assigned to one room.

The Attributes Include:

- **Room Type:** In the context of a hospital, there are several types of rooms that generally exist. Several types of rooms can be found in a hospital including:
 - **Mabel Room:** This room is used to treat patients who need long-term care or intensive monitoring.
 - **Catez Room:** This room is used to carry out physical examinations, blood sampling, or other diagnostic procedures.
 - **Sisca Room:** This room is used to perform medical procedures or actions that require a special room.
 - **Shock Room:** This room is used to provide immediate medical care to patients who experience emergencies or accidents.
 - etc.

5. Payment (One to One)

The one-to-one relationship between “Payment” and “Patient” suggests that each payment is specific to a single patient and each patient has one associated payment record. The relationship is:

- **PayID (PK):** This attribute uniquely identifies each payment in the “Payment” entity. It references or tracking numbers to uniquely identify and differentiate individual payments in a payment system or database.
- **PatientID (FK):** This attribute is used to establish a connection between the “Payment” entity and the “Patient” entity. It represents the patient associated with the payment and acts as a foreign key referencing the primary key of the “Patient” entity.
- **PayTotal:** This attribute stores the total amount of the payment.

Entity Relationship Diagram

