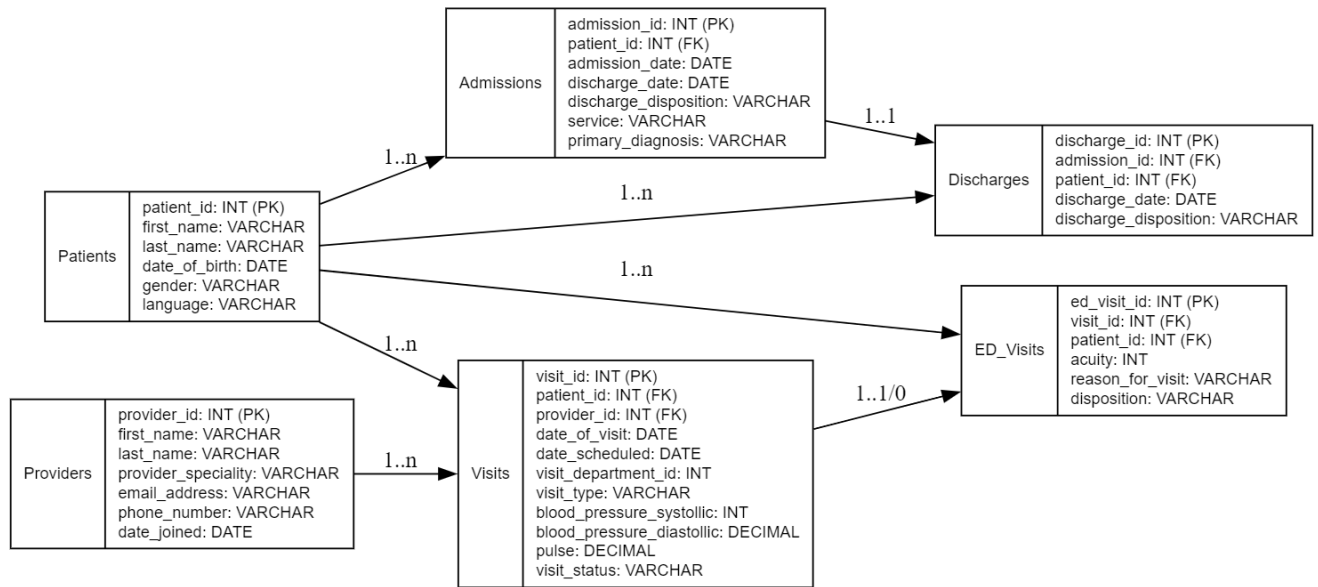


Entity Relationship Diagram



Notes on the ERD

- **Primary Keys (PK):** These fields uniquely identify each record in the table.
- **Foreign Keys (FK):** These fields create a link between two tables.
- **Relationships:** The ERD shows how each table is related, with 1..n indicating one-to-many and 1..1/0 indicating a one-to-one or optional relationship.

The ERD models the relationships between different entities (tables) in a database. In this scenario, the database is related to healthcare, with entities such as patients, providers, visits, ed_visits, admissions, and discharges.

Entities and Their Relationships

- Patients:**
 - **Primary Key:** patient_id (unique identifier for each patient)
 - A patient can have multiple visits, emergency department (ED) visits, admissions, and discharges.
- Providers:**
 - **Primary Key:** provider_id (unique identifier for each provider)
 - A provider can have multiple visits.
- Visits:**
 - **Primary Key:** visit_id (unique identifier for each visit)
 - **Foreign Keys:** patient_id (refers to the patient), provider_id (refers to the provider)
 - A visit is linked to one patient and one provider. A patient can have multiple visits.
- ED_Visits:**
 - **Primary Key:** ed_visit_id (unique identifier for each ED visit)
 - **Foreign Keys:** visit_id (refers to a visit), patient_id (refers to the patient)
 - Each ED visit is linked to a specific visit and patient. A visit can lead to an ED visit, but not all visits are ED visits.
- Admissions:**
 - **Primary Key:** admission_id (unique identifier for each admission)
 - **Foreign Keys:** patient_id (refers to the patient)
 - A patient can have multiple admissions.

6. **Discharges:**

- **Primary Key:** discharge_id (unique identifier for each discharge)
- **Foreign Keys:** admission_id (refers to an admission), patient_id (refers to the patient)
- A discharge is directly linked to an admission and the patient. Each admission can result in one discharge.

Relationships

- **Patients and Visits:** One-to-Many (A patient can have multiple visits, but each visit is linked to one patient)
- **Providers and Visits:** One-to-Many (A provider can oversee multiple visits, but each visit is overseen by one provider)
- **Visits and ED_Visits:** One-to-One or Zero-to-One (A visit can lead to one ED visit or none, and an ED visit is linked to one visit)
- **Patients and Admissions:** One-to-Many (A patient can have multiple admissions)
- **Admissions and Discharges:** One-to-One (Each admission has one corresponding discharge)
- **Patients and Discharges:** One-to-Many (A patient can have multiple discharges, each tied to an admission)