

Type of ER Diagram

- An entity-relationship diagram (ERD) is a tool used to help a developer to design databases at the conceptual level. An ERD uses three main elements to represent the building blocks of a database: entity, attribute, and relationship.
- Two types of ER diagram:
 - Chain Notation
 - Crow Foot's Notation

Chain Notation

- Chen notation uses a diamond and connecting lines with symbols to describe relationship
- Chen notation has the following possible cardinality:
 - **One-to-one (1:1)** – both entities are associated with only one attribute of another entity
 - **One-to-many (1:N)** – one entity can be associated with multiple values of another entity
 - **Many-to-one (N:1)** – many entities are associated with only one attribute of another entity
 - **Many-to-many (M:N)** – multiple entities can be associated with multiple attributes of another entity

1. One to One Relationship



2. One to Many Relationship



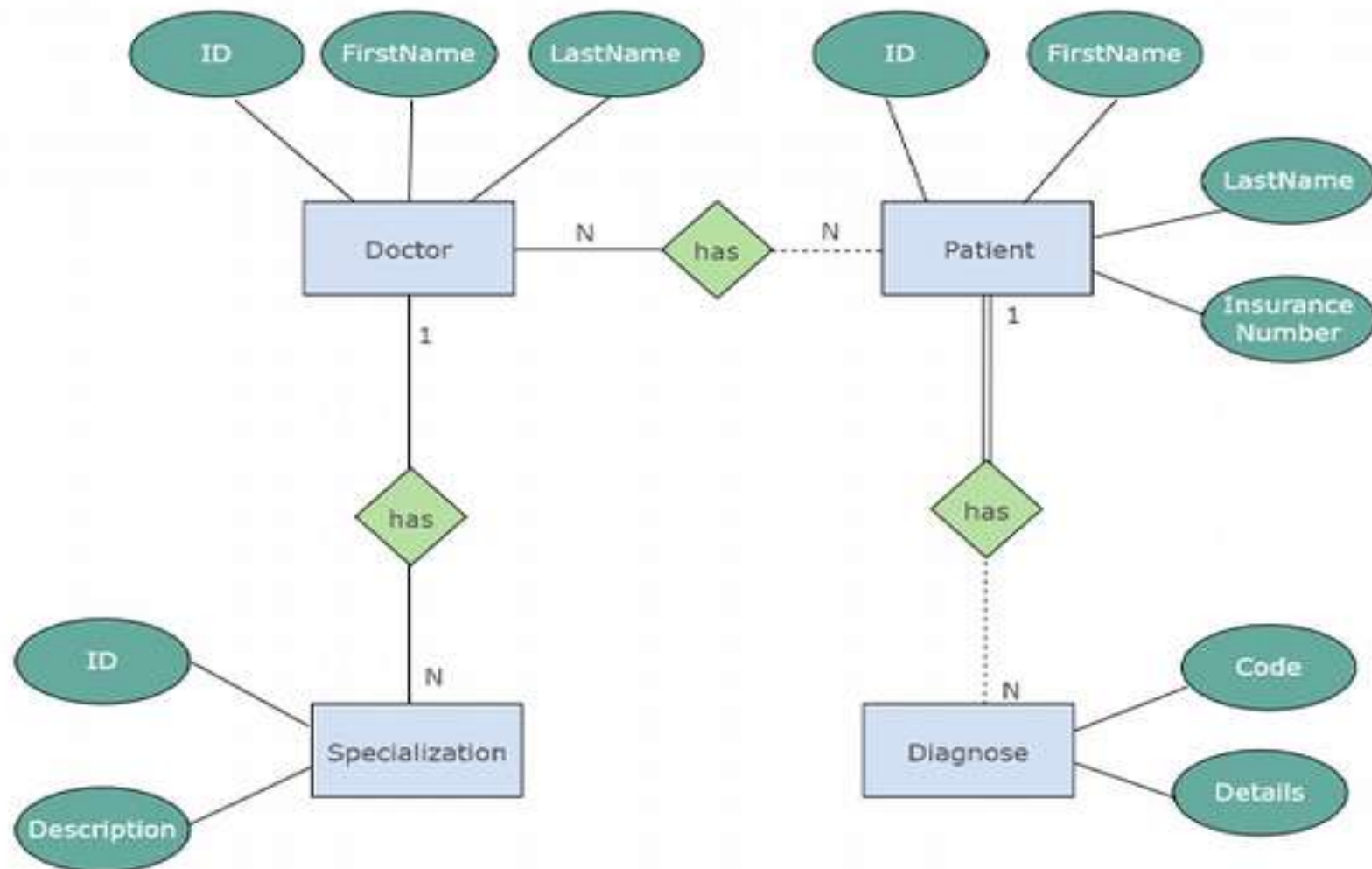
3. Many to One Relationship



4. Many to Many Relationship



Example



Crow Foot's Notation

- Use crows foot notation to represent relationships between entities in an entity relational diagram. Entities are connected by lines, and symbols at the beginning or end of the line describe cardinality.
- Crow's Foot has these relationships. While the logic is the same, the visual representation is quite different:
 - One
 - Many
 - Zero or many
 - One or many
 - One and only one
 - Zero or one



One



Many



One (and only one)



Zero or one



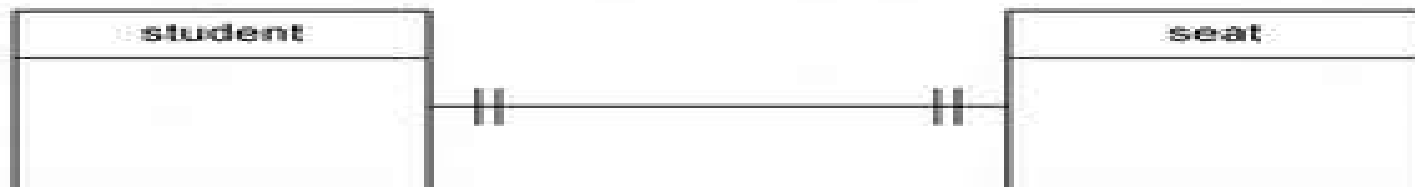
One or many



Zero or many

Relationship degrees make them readable as :

- One-to-one



- One-to-many



- Many-to-many



To compare ERD notations, take a look at :

Example

