a. Requirements:

* The system should store information about films, including their title, release date, IMDb rating, associated genres, directors, and actors.
* Each film can have multiple genres, directors, and actors, and each genre, director, and actor can be associated with multiple films.
* Actors may have a date of birth (DOB) recorded.

b. Business rules/requirements:

* Each film must have at least one genre, one director, and one actor associated with it.
* An actor can play multiple roles in a film.
* Films should have unique identifiers (FilmID).
* Genres, actors, and directors should have unique identifiers (GenreID, ActorID, DirectorID).

d. Normalization (Up to 3NF):

First Normal Form (1NF):

Each table has a primary key column to uniquely identify each record.

No duplicate rows exist in the tables.

Atomicity of data is ensured.

Second Normal Form (2NF):

No partial dependencies exist.

Separate tables are created for logically related data.

Relationships between entities are identified and separated.

Third Normal Form (3NF):

No transitive dependencies exist.

Non-key attributes that depend on other non-key attributes are removed.

Based on the provided ER diagram, the schema appears to be already normalized up to 3NF. Each table has a primary key, and there are no partial or transitive dependencies present.