Relational Schema

Strong Entity
- Title(tconst:VARCHAR(20) [PK], isAdult:BOOLEAN, originalTitle:VARCHAR(255), titleType:VARCHAR(50), primaryTitle:VARCHAR(255), startYear:YEAR, endYear:YEAR, runtimeMinutes:INT, rating:INT)
- Genre(genreName:VARCHAR(50) [PK])
- Language(languageName:VARCHAR(50) [PK])

Weak Entities
- Director(tconst:VARCHAR(20) [PK][FK to Title.tconst], Director:VARCHAR(50)
- UserInfo(watchHistoryID:INT [PK], tconst:VARCHAR(20) [FK to Title.tconst], dateWatched:DATE)

Associative Table for Many-to-Many Relationship
- TitleGenre(tconst:VARCHAR(20) [PK][FK to Title.tconst], genreName:VARCHAR(50) [PK][FK to Genre.genreName])
- TitleLanguage(tconst:VARCHAR(20) [PK][FK to Title.tconst], languageName:VARCHAR(50) [PK][FK to Language.languageName])

Normalization:

BCNF: for any non trivial dependency $A_1 A_2 \ldots A_n \rightarrow B$, then $A_1 A_2 \ldots A_n$ is a superkey

1. In the "Director" and "UserInfo" tables, "tconst" is a foreign key but also part of the primary key, making it a superkey
2. In the "TitleGenre" and "TitleLanguage" tables, the composite primary key (tconst, genreName/languageName) is a combination of foreign keys, making it a superkey
3. There are no dependencies where a non-superkey determines any other attribute

We choose BCNF because the relational schema is already normalized and BCNF is a stricter form of normalization. BCNF eliminates more redundancy than 3NF so if a schema satisfies BCNF, it must also satisfy 3NF.