ASSIGNMENT-1
(**Group - 23**)
ER-Diagram

We have built an Entity-Relationship diagram for IMDb website. This report explains the kind of relationship sets used between the entity sets and the important details corresponding to them.

GROUP MEMBERS:

(GROUP 23)	
CH. VINAY KUMAR	CH18BTECH11008
D. LAKSHMI MANOHAR	CH18BTECH11009
HRITIK SARKAR	CH18BTECH11012
M DINESH	CH18BTECH11015
VRUSHANK K	CH18BTECH11033

READ_ME:

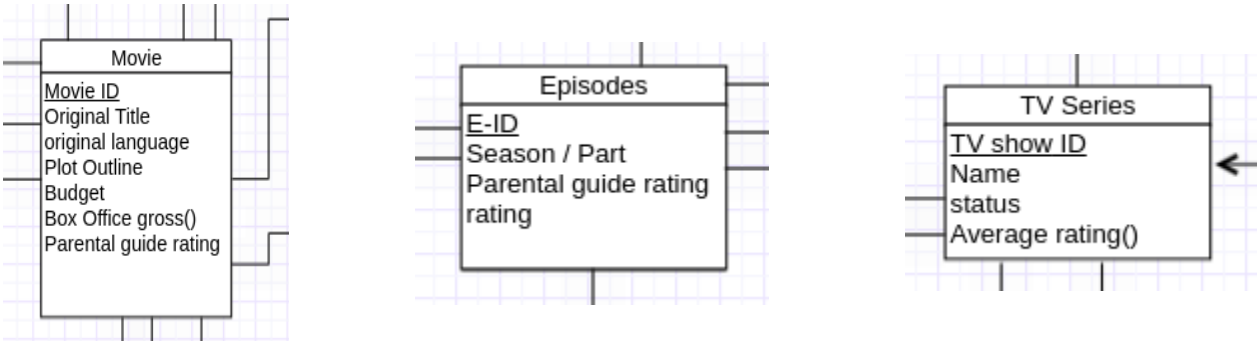
- We have used the website “gliffy” to make the ER diagram.
- Use the ".jpg” file of the assignment which can be directly viewed in a photo viewer.

Alternatively, you can use gliffy website to open the “.gliffy” file.

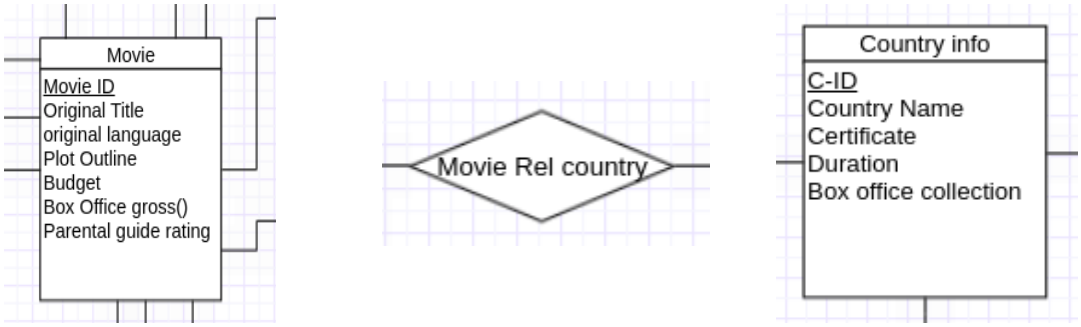
- The ER diagram can be viewed on gliffy by importing the “.gliffy” file we have submitted in the classroom to gliffy.
- In order to use gliffy, please follow these instructions:
    - Open gliffy website : https://www.gliffy.com/
    - Click on “free trial” on the Gliffy website.
    - Enter your **IITH email ID** and password of choice.
    - Set the group size to 1000+.
    - Verify the email by clicking on the link sent to your email by gliffy. You will receive a premium licence for 4 years.Then import the “.gliffy” file we have submitted and view it. **Please DON'T sign in with google directly as it only gives you 13 days of licence.**

ER DIAGRAM DETAILS:

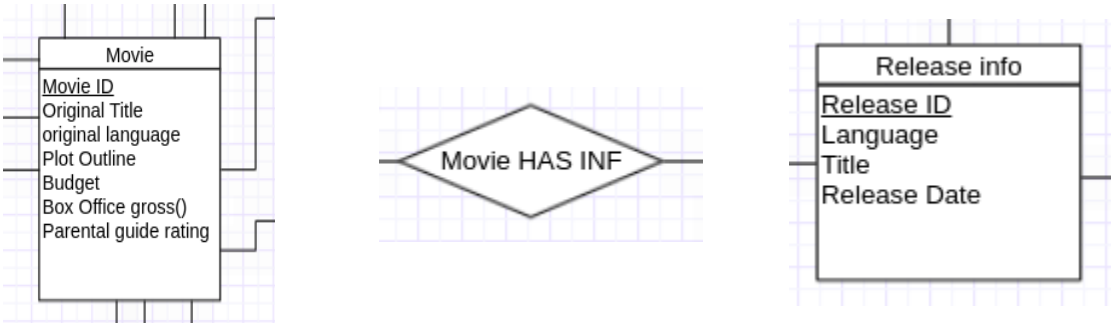
Constraint-1 :



The above entities used in the ER diagram represent the entity sets of Movie, TV series and episodes. The attributes of ID, original title, plot outline are present in the corresponding entity sets.
The other attributes can be found using these relations:

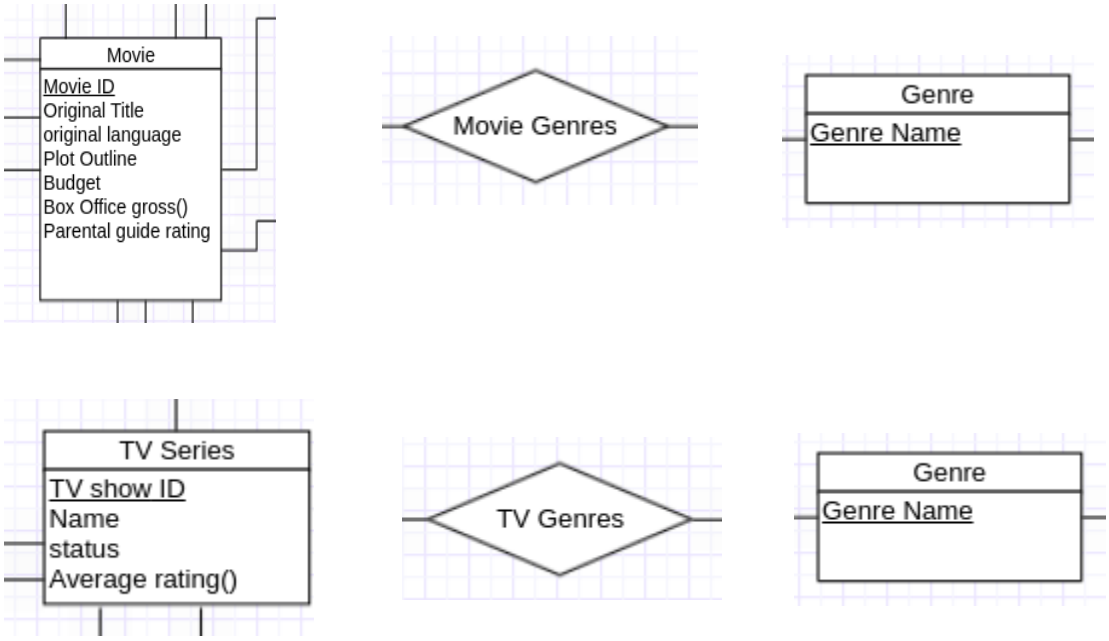


This is a many-to-many relation between a movie and the countries of its release and its certification in those countries. It also gives us the runtime of a movie in the respective country.

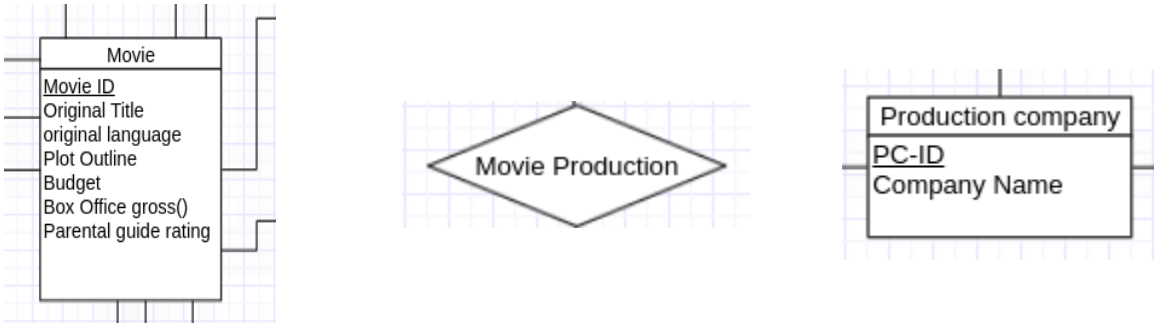


This many-to-many relation gives us the languages of release and the movie names in corresponding languages. It also gives us the release date of a given movie.

Assumption: We have assumed that the release of a movie depends on both the country and the language of release.

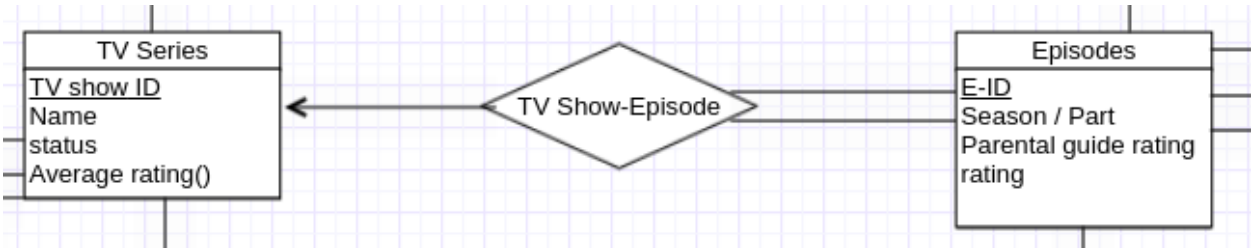


The above many-to-many relation sets give us the “Genres” corresponding to a movie/ TV series.



The above many-to-many relationship gives the production company/ companies corresponding to a movie/ TV show.

Constraint-2:



The above one-to-many relation set gives us the association between the TV series and the episodes. Episodes is a strong entity and is fully participating in the relation set.

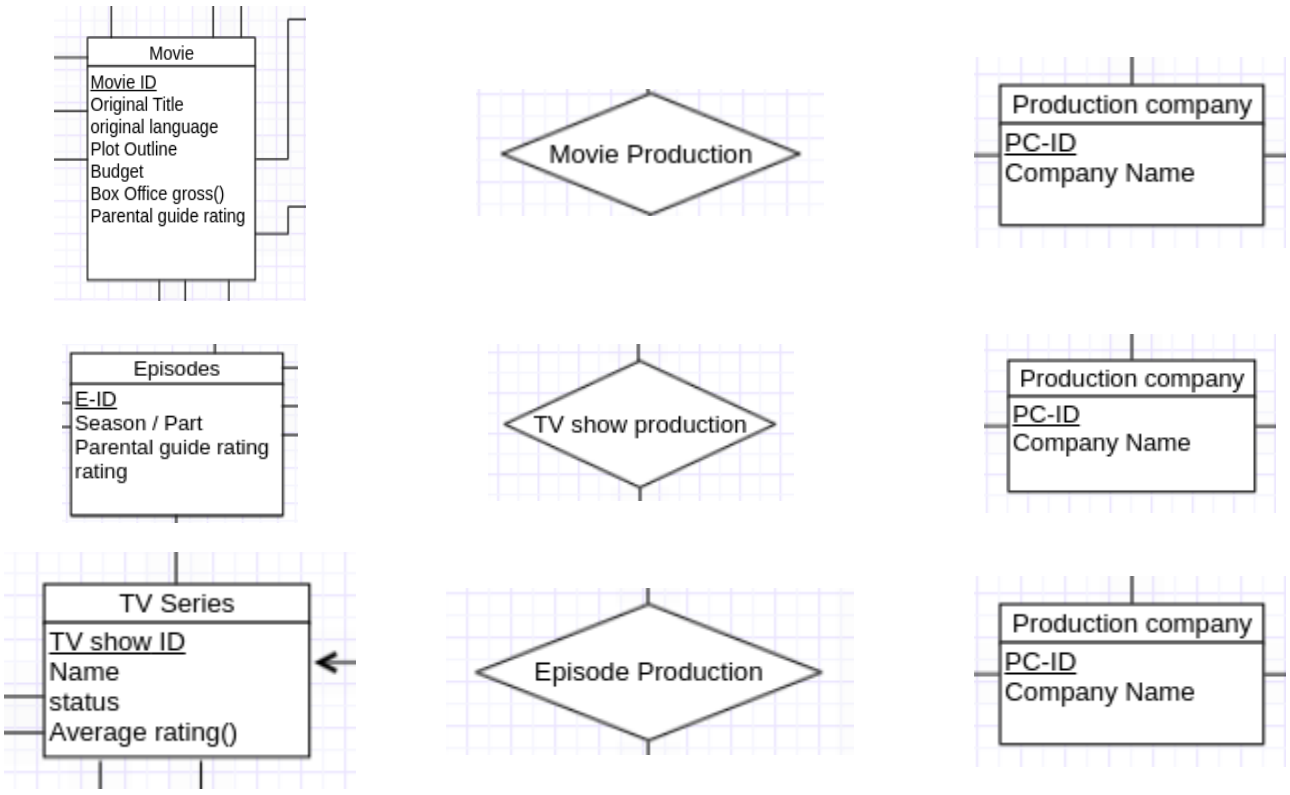
CONSTRAINT-3:

The TV-series entity set from above contains an attribute called status that tells whether the TV series is ongoing/completed.

CONSTRAINT-4:

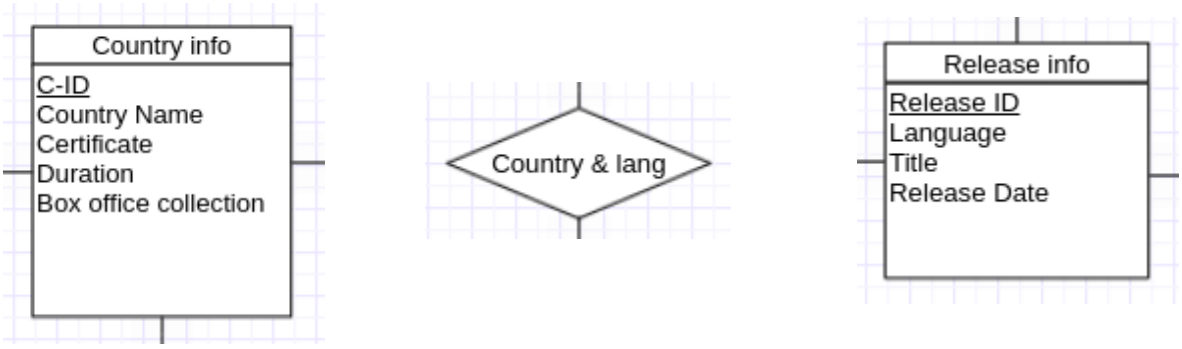
Movie ID is the primary key of the “Movie” Entity set and hence it cannot be left blank.

CONSTRAINT-5:



The above three many to many relations give us different movies/TVseries/Episodes that can be produced by multiple production companies.

CONSTRAINT-6:

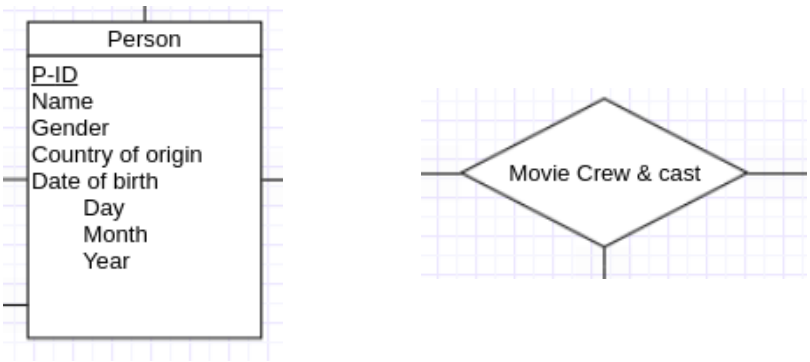


We assumed that released dates will be different for different languages in each country.
The many-to-many relation between country info and release info can give us the release dates of a movie in different languages in a given country.

CONSTRAINT-7:

The entity sets of episodes/ movies contain an attribute of Average rating out of 10.
Assumption: It is assumed that the user rating out of 10 is available to us.

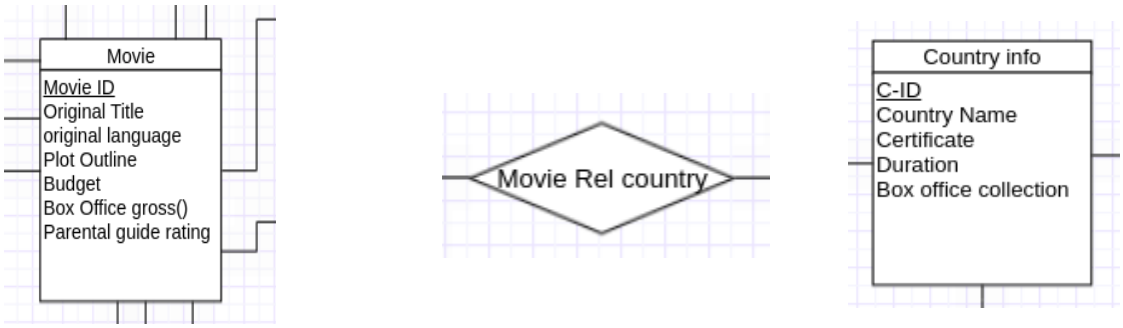
CONSTRAINT-8:



The above ternary relation gives us all the movies corresponding to a given actor and the role (not shown above) corresponding to actors. Using the original language attribute in the movie entity set we can find the languages corresponding to actors.

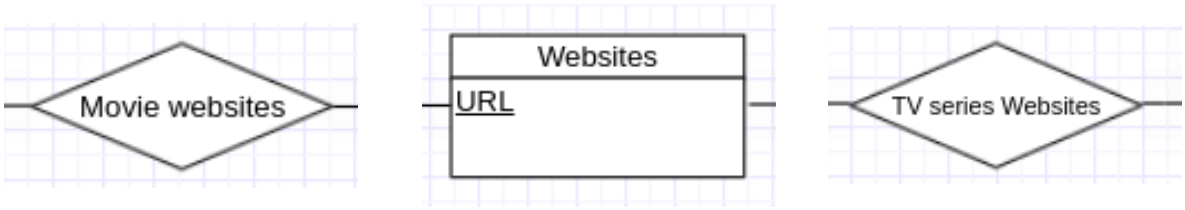
Assumption: We assumed that the other language versions of a given movie are only dubbed versions and don't belong to the actors' language.

CONSTRAINT-9:



The above relation gives us the duration of a movie. Using the TV series entity set instead of movie entity set gives us the duration of the corresponding TV series.

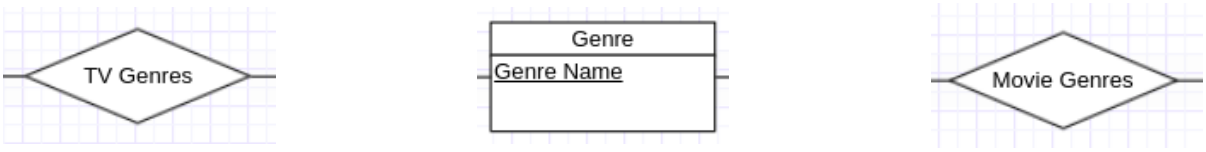
CONSTRAINT-10:



The above many-to-many relation sets connect movie and Tv series to the websites entity. The required website can be found in these relation sets.

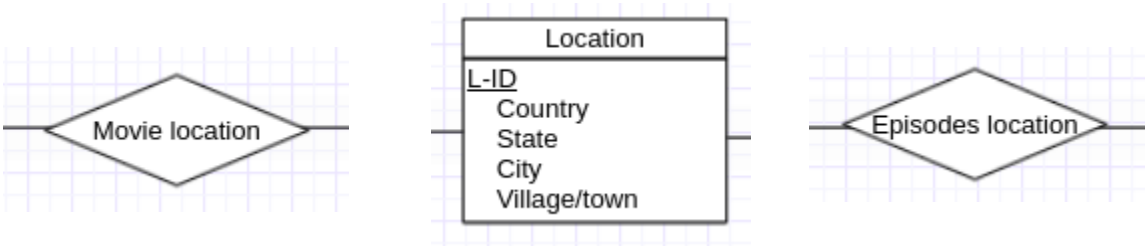
Assumption: It is assumed that the Given website consists of a movie in all the released languages and can be picked according to needs.

CONSTRAINT-11:



The above many-to-many relation sets give us the “Genres” corresponding to a movie/ TV series.

CONSTRAINT-12:

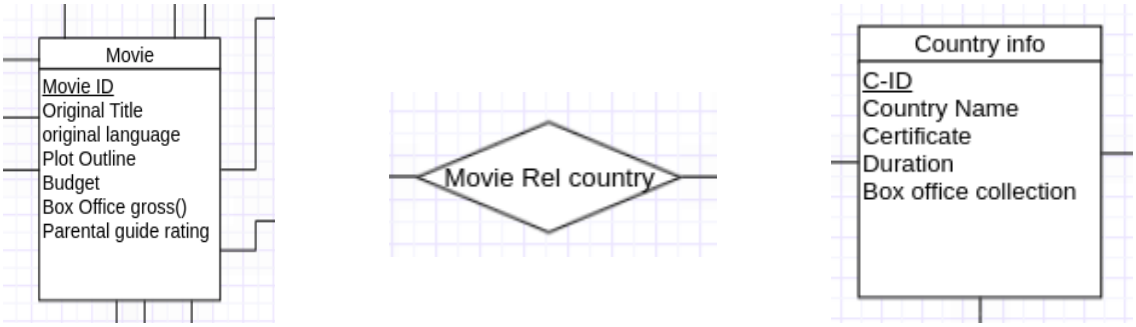


The above many-to-many relations connecting the entity sets of movies and episodes with the location entity set give us locations of the corresponding episode/movie.

CONSTRAINT-13:

The episode entity set has an attribute called “Rating”. It gives the necessary rating per episode.

CONSTRAINT-14:



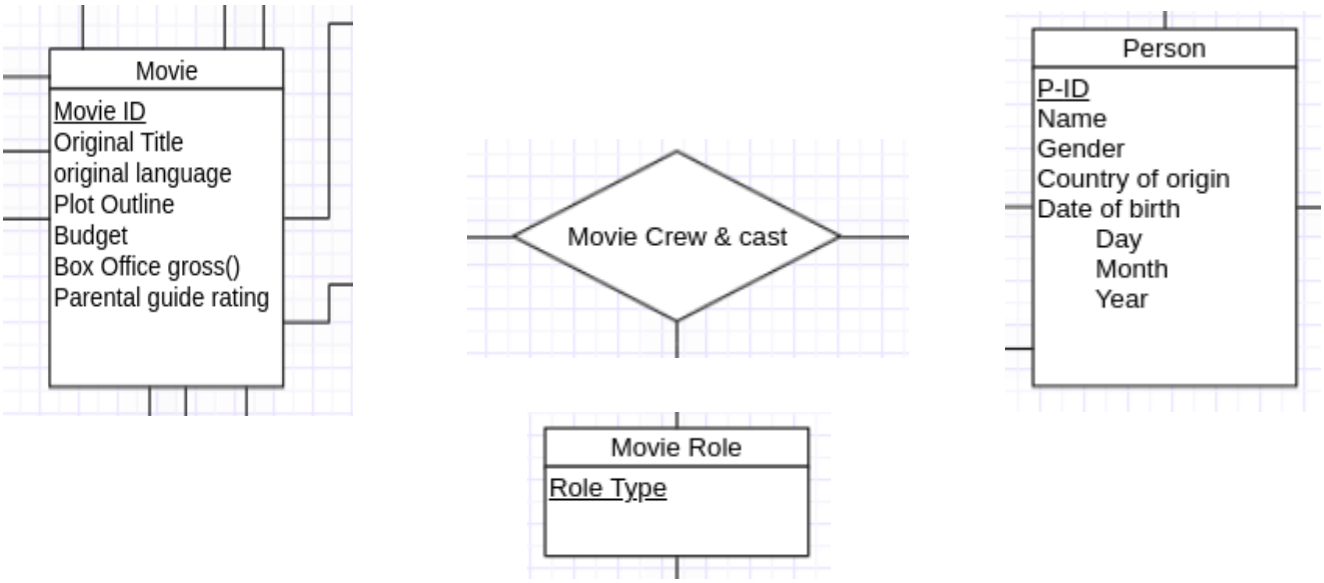
This is a many-to-many relation between a movie and the countries of its release and its certification in those countries. It also gives us the runtime of a movie in the respective country.

CONSTRAINT-15:

We have the attributes of Parental guide rating in episode entity set as well as the movie entity set.
Assumption: The parental guide rating corresponding to a TV series can be obtained from the episodes itself.

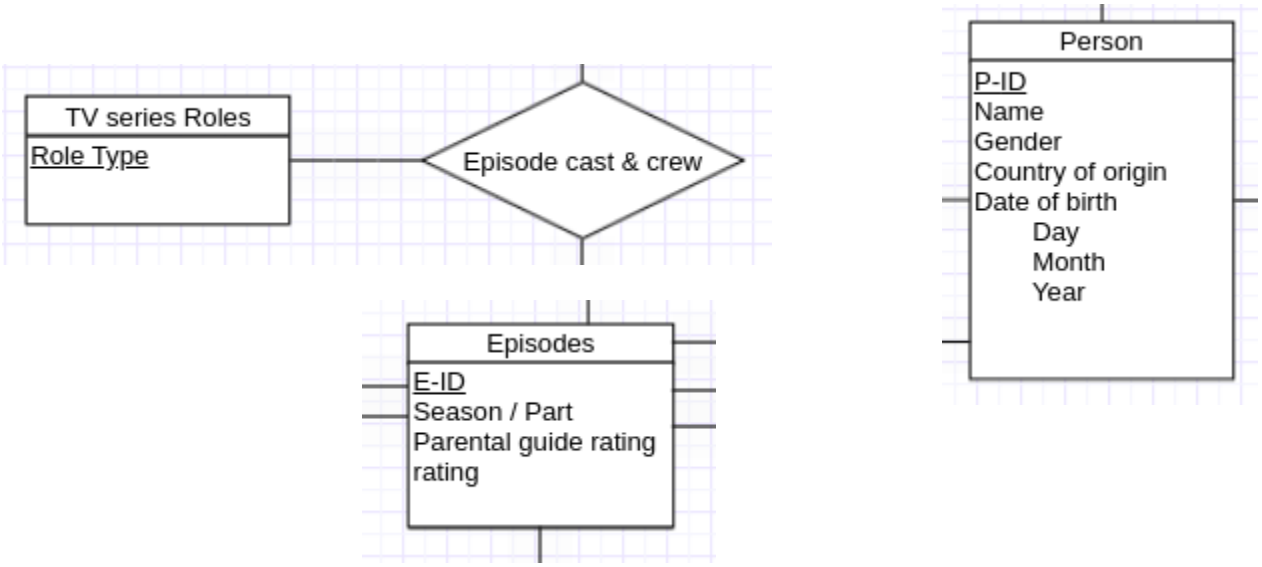
CONSTRAINT-16:

This is a many-to-many ternary relationship between Person, Movie and Role, which contains Movie-ID, Person-ID and Role type. We can use these to get the name of all the directors of a particular movie/TV series.

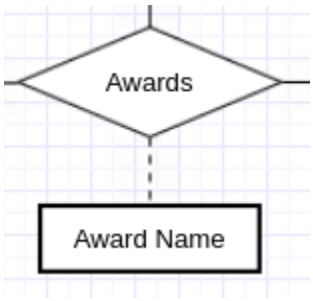


CONSTRAINT-17:

Using the below many-to-many ternary relation between episode, person and role we can find the cast and crew that took part in the corresponding episode.



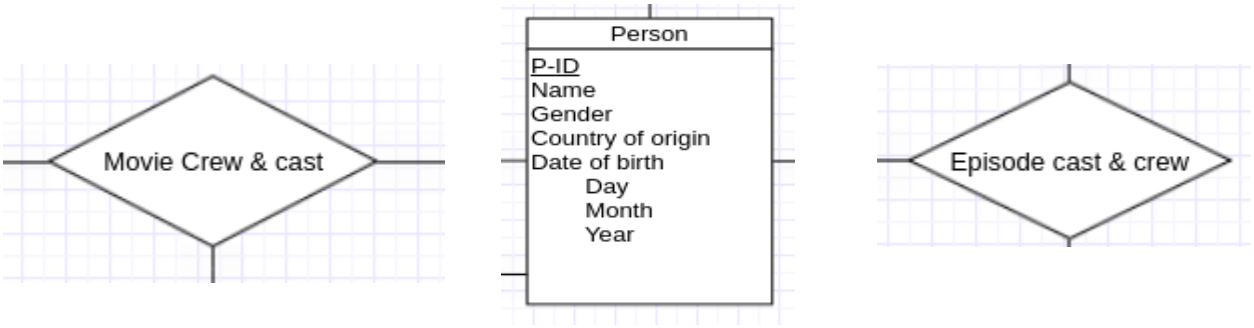
CONSTRAINT-18:



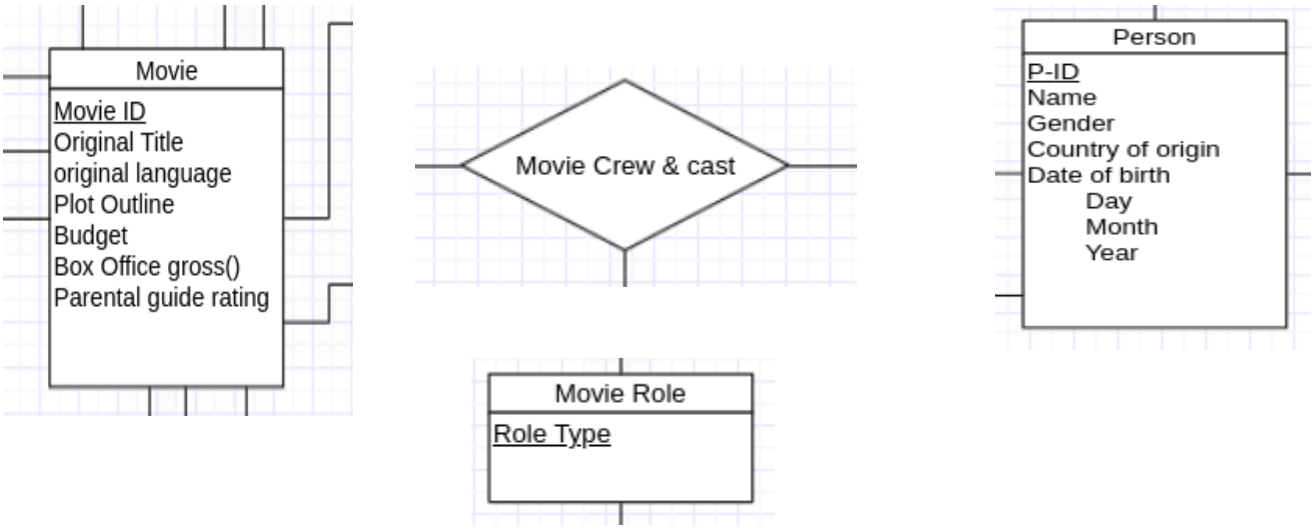
The above many-to-many ternary relation with attribute (award name) connecting the person, their role and the movie they acted in will give us the awards/accolades/Nominations, a person has won/achieved.

CONSTRAINT-19:

The below ternary relations between movie and person and the ternary relation between the entity sets of TV series and person will give us the person's involvement in various Movies/ TV series.



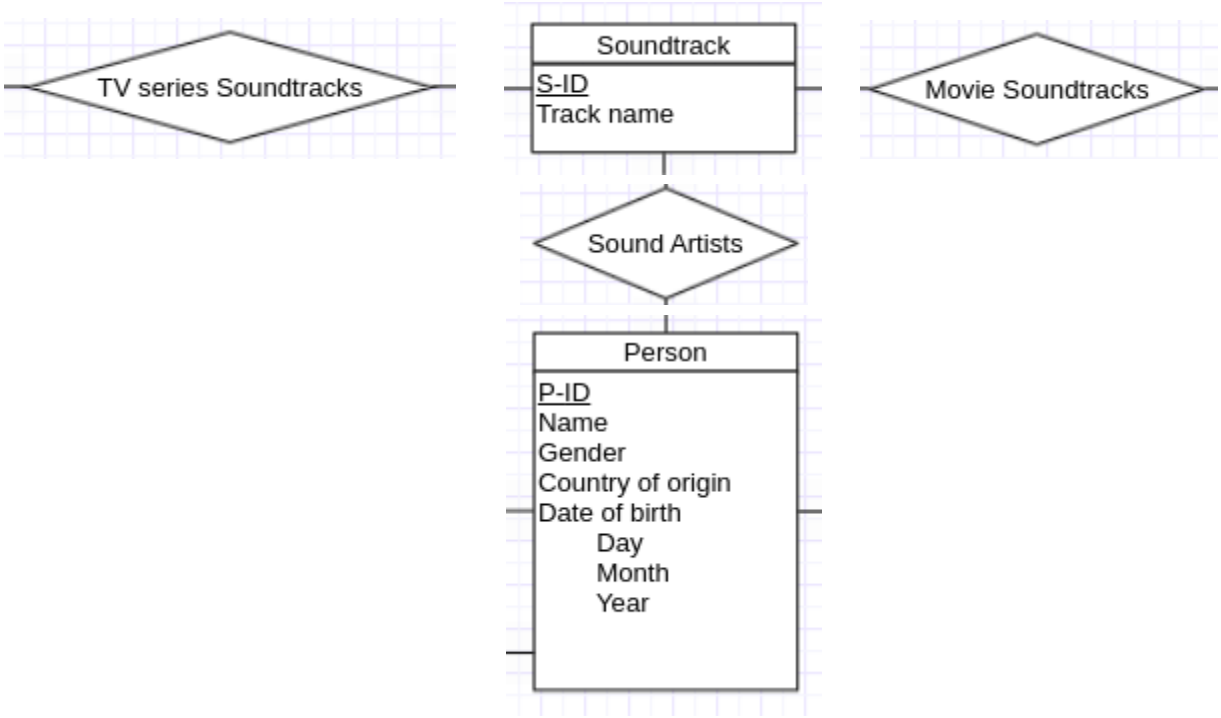
CONSTRAINT-20:



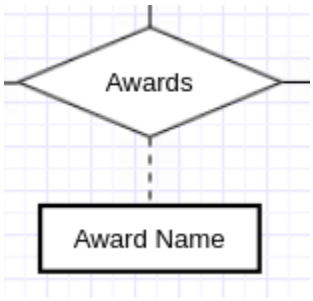
The above many-to-many ternary relation gives us the directors record of movies directed, budget, box office collection etc.

CONSTRAINT-21:

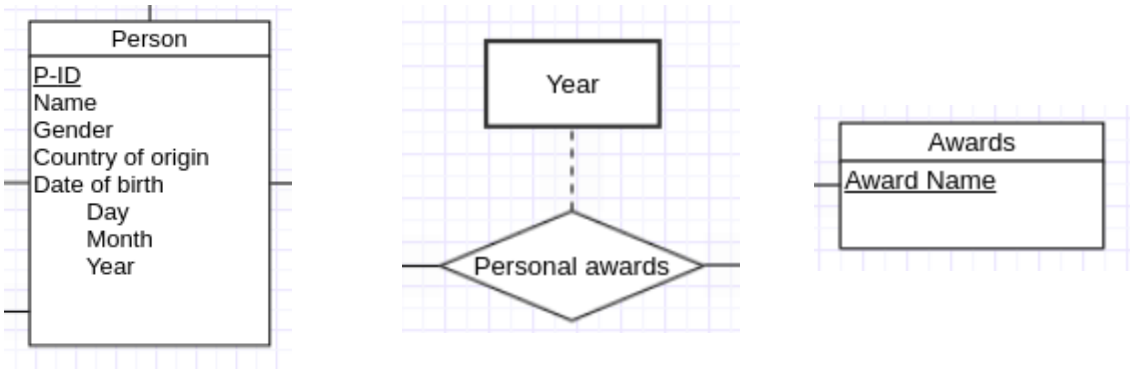
The below many-to-many relation sets between the soundtrack, movies and episodes and the artists can give us all the soundtracks corresponding to a movie/ episode and the artists who have developed the soundtrack.



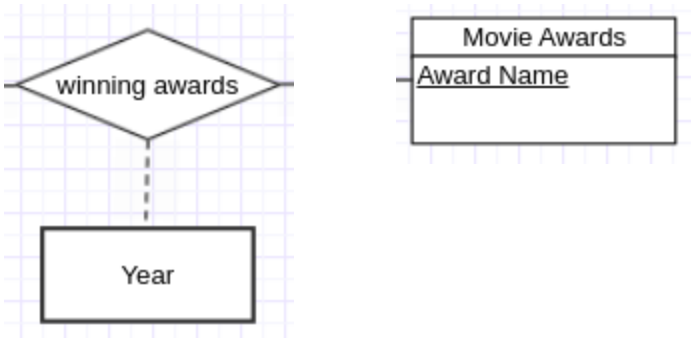
CONSTRAINT-22:



- The above ternary relation of awards gives us all the awards/accolades achieved by the persons corresponding to a movie for their role/contribution in a given movie.



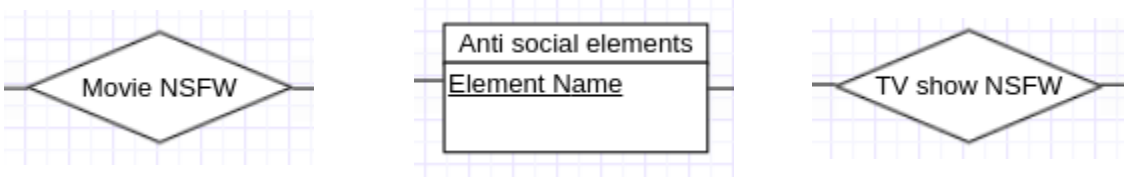
- The personal awards relation set (many-to-many) gives us all the awards achieved by a given person personally and not from a particular movie.



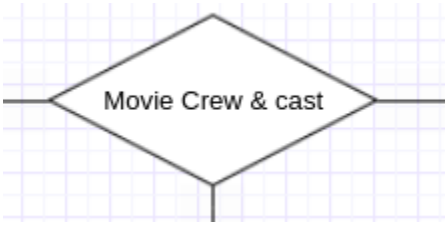
- The “Winning awards” relation (many-to-many) consists of the awards won **ONLY** by a movie and not the cast and crew.

CONSTRAINT-23:

The two many-to-many relation sets “Movie NSFW” and “TV show NSFW” contain all the anti-social elements like smoking, drug abuse etc. present in the movie/TV series.



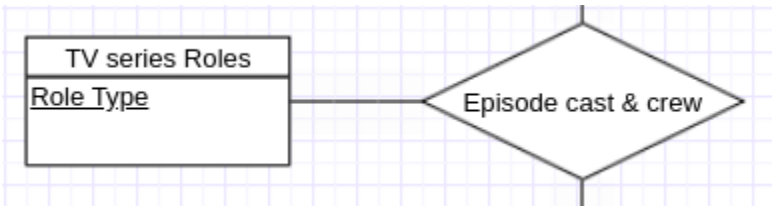
CONSTRAINT-24:



The many-to-many ternary relation “Movie, crew and cast” gives us all the staff connected to a film making process.

CONSTRAINT-25:

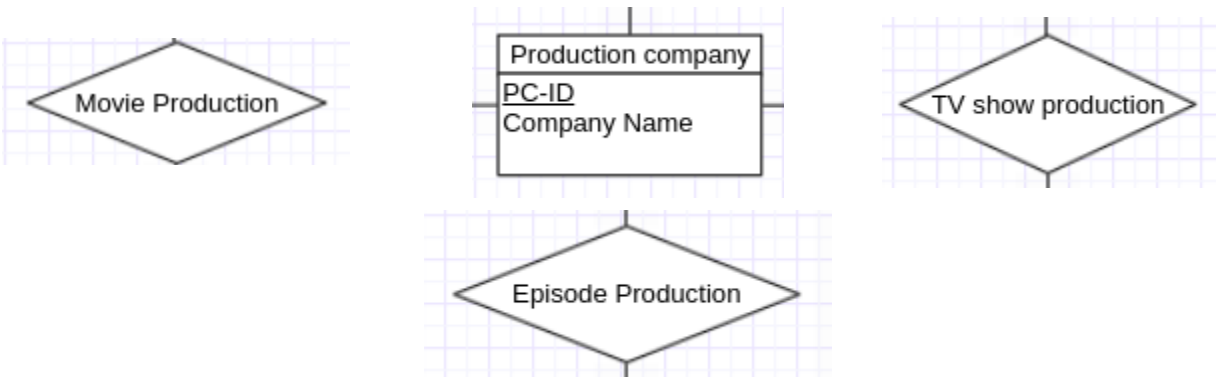
The many-to-many ternary relation “Episode cast & crew” connects to the episode, roles and person. This gives us all the people involved in an episode.



CONSTRAINT-26:

The “episode” entity set consists of an attribute called “average rating”.

CONSTRAINT-27:



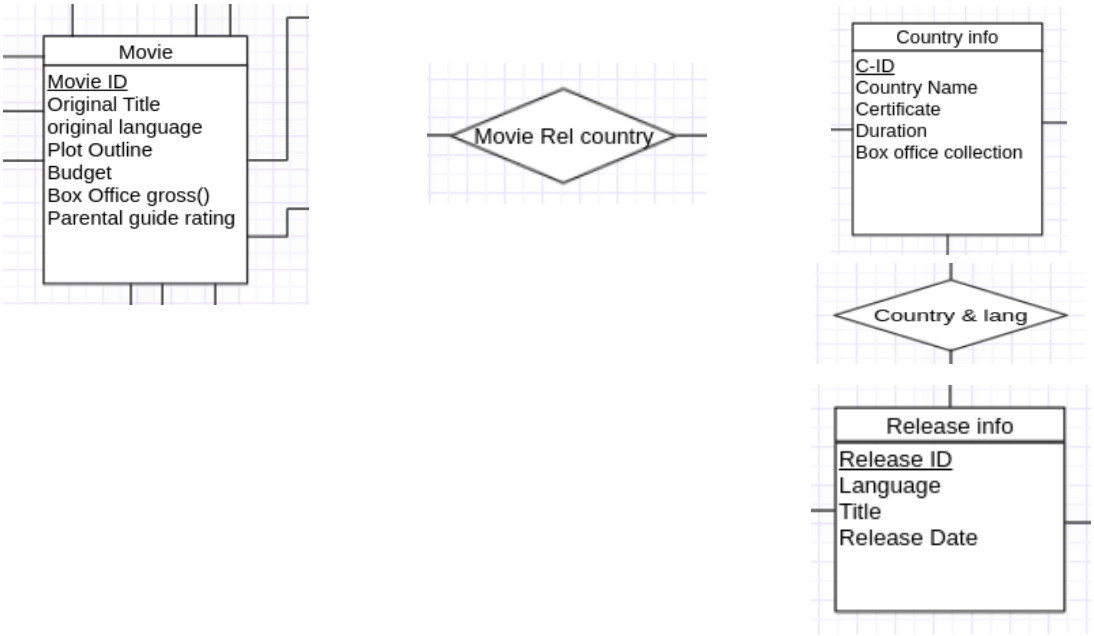
The many-to-many relations of “Movie production” and “TV show production” give us all the movies and TV series associated with a production company.

CONSTRAINT-28:

As mentioned above the entity set “Movie” has attributes of budget and box office collection”.

CONSTRAINT-29:

The two many-to-many relations “Country and lang” and “Movie Rel country” when joined, give all the necessary details about the movies, country of releases and the names of the movies languages corresponding to those countries.



Minimum number of Tables required for our ER Diagram is 41