**Lab 02 - Relational Algebra**

**(Selection, Projection, Join)**

Consider the following relations:

**MOVIES** (id:int, title:varchar(35), year:int, director:int)

**ACTORS** (id:int, name:varchar(20), lastname:varchar(30))

**CASTINGS** (movieid:int, actorid:int)

**DIRECTORS**(id:int, name:varchar(20), lastname:varchar(30))

1. What is the primary key of each table?

**Movies: id**

**Actors: id**

**Castings: movies, actors**

**Directors: id**

1. What is the importance of the table castings?

The table **Castings** is the bridging table, so we use that to avoid **many-to-many relation.** Moreover, its primary key is named **component key.**

1. How is the directors table connected with the movies table?

The **Directors** table is connected with the **Movies** table through the director attribute because director is a foreign key in the **Movies** table.

1. Using the same schema as above, write the keyword (Selection, projection, join) needed for each of the following queries:
2. List all actors.

It’s a selection.

1. Find all movies produced in 2010.

It’s a projection

1. List all actors in the Avatar movie.

It’s a join