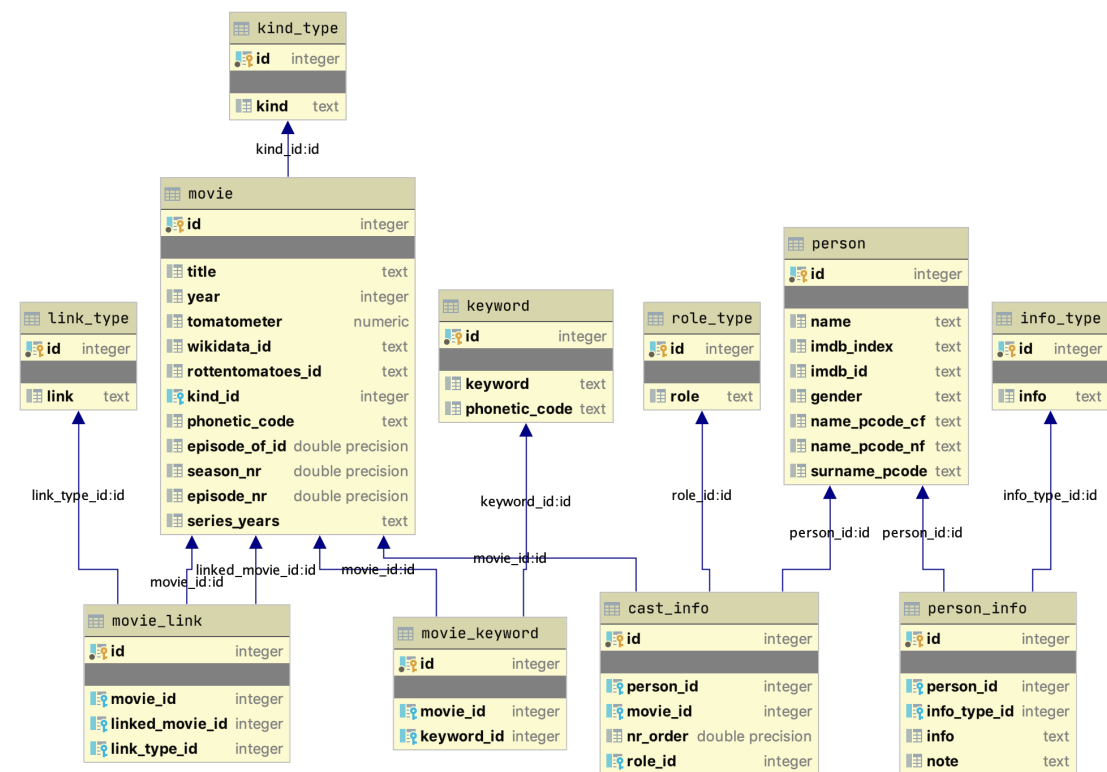# Computational Thinking
Exercise 8 (Databases)

1   Database Queries

Take a look at the movie database schema to write SQL queries for the following questions. You can try out your queries in the notebook to this exercise or by connecting to the PostgreSQL database from a terminal with the psql client with user *student* and password *disco*2020:   → notebook

```
psql -h disco-db.tik.ee.ethz.ch -U student -d moviedb_v3
```


a) Display the title and id of the first five entries in the movie table.

b) Display the first two rows of the movie table after sorting it by title in alphabetically reversed order.

c) How many movies came out since the year 2000?

d) What's the tomatometer score of the movie titled 'The Matrix'?

e) How many movies have a higher tomatometer score than 'The Matrix'?

f) Display the 5 years in which the average tomatometer score of movies was the best. Show this average score, too.

g) Which movie titles start with a capital X? List them in reverse alphabetical order.

h) How many movie titles contain the string 'fight'?

2 Advanced Database Queries

You will need to use table joins to answer the following queries for the movie database of the previous question. To find the first movie 'Steve Buscemi' was cast in, you could use a query like:

```
SELECT movie.title, movie.year
FROM cast_info
JOIN person ON cast_info.person_id = person.id
JOIN movie ON movie.id = cast_info.movie_id
WHERE person.name = 'Buscemi, Steve'
ORDER BY year ASC
LIMIT 1;
```

a) List all actresses who were cast in 'The Matrix'.

b) How many female directors can you find in the database?

c) List all directors who have directed more than 20 projects and have also appeared at least once as an actor in any project (movie, tv show, etc).

d) Which movie is described by the most keywords?

e) What's the average, maximum and minimum number of keywords per movie?

f) List all actors with an average tomatometer score over 85% who were cast in at least 30 movies and who appear in at least one movie made since 2000.

g) List all directors who have achieved to direct at least 10 movies with a tomatometer score of over 90%.