University of Minho
Department of Computer Science

FE05

Course: MSc in Informatics/ MSc in Bioinformatics
U.C.: NoSQL Databases

Worksheet 04 - PL05	
Teacher:	António Abelha / Cristiana Neto
Theme:	Introduction to MongoDB
Class:	Laboratory Practice
Academic Year:	2023-2024 – 2nd Semester
Duration of the lesson:	2 hours

1. mflix

Using the data provided, create a database, collections, and documents in MongoDB. Indicate statements **using aggregation** that allow you to:

[1] Find the number of films released per year, sorted by year of release.

[2] Group the films by rating (consider only the types: G, PG, PG-13, R, NC-17) and calculate the film count in each category. Present in alphabetical order.

[3] Present the average rating calculation for each gender;

[4] Find the actor who has appeared in the most films and list the titles of the films in which he has acted.

[5] Find the 10 directors with the most released films and order them in descending order, ignoring the films without a director.

[6] Find the top 2 most popular horror movies based on the number of awards received. Display only the name and number of prizes.

[7] Find the top 10 most popular movies, based on the number of comments in the comments. Display only the name and number of comments. PS: to optimize the search don't forget to create the indexes.

[8] Find all users who have commented on films released in 2015, along with information about the film to which the comment refers and save the resulting documents in a collection called 2015_comments.

[9] Find all cinemas that are located within a 10 km radius of a given geographic coordinate (latitude and longitude). To do this, you can use MongoDB's $geoNear operator , which allows you to find geographic documents near a landmark.