Due Date: 11/29/2021 6:00 PM

Please check all homework assignments into GitHub according to the steps described in HW05 Exercise 5. You will be required to check in two files:

* A markdown (.md) file for explaining your code
* A SQL (.sql) file that will run without error in PostgreSQL

Don't forget to have your folder when you check your work into master.

As always, if you experience an error message, write it up and record your work in the [MATH\_290\_Knowledge\_Base](https://docs.google.com/spreadsheets/d/1cTduVN-MqKQnQ6DTwRQYigieR1N7aov7YIvcbDXLXQ0/edit?usp=sharing).

We will continue exploring the previously downloaded [IMDB database](https://datasets.imdbws.com/).

Answer the questions with your buddy.

**Question 1:** What is the average runtime of a Nicolas Cage movie?

**Question 2:** What percentage of 2010 movies are longer than the average runtime of a Nicolas Cage movie?

**Question 3:** Calculate the change (in percentage) of annual average runtime movies with 'Action' genre (use a window function). To do this follow the steps below:

1. Calculate the annual average run time of movies where 'Action' is member of the genres array
2. Use a window function to calculate the change between two years.

Example: if average runtime was 20,000 minutes in 2011 and 21,000 in 2012 then the change in percentage should be (21,000-20,000)/20,000 = 0.05 -> 5%

**Question 4:** What is the average number of seasons a TV Series with over 4.2 average ratings has?

**Question 5:** What is the highest rated Hungarian movie, and how many standard deviations away is it from the mean rating of all Hungarian movies?

**Question 6:** What are the top 10 regions with the most votes per movie published?

**Question 7:** What are the top 10 writer and director combinations with the highest average rating between 2000 and 2020 by year?