Due Date: 12/06/2021 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:** Are movie ratings normally distributed? To answer this question, take the following steps.

* Visualize the data in a histogram and observe if the ratings adhere to a bell curve (use PowerBI to do this)
* Look at the descriptive statistics of the data (n, min, max, mean, variance, skewness, kurtosis)
* Calculate the relative frequency distribution of movies ratings ([here](https://courses.lumenlearning.com/odessa-introstats1-1/chapter/frequency-frequency-tables/#:~:text=To%20find%20the%20relative%20frequencies,fractions,%20percents,%20or%20decimals.&text=Cumulative%20relative%20frequency%20is%20the%20accumulation%20of%20the%20previous%20relative%20frequencies.) is a refresher on relative frequency )
* Carry out the Shapiro-Wilk Test described [here](http://www.real-statistics.com/tests-normality-and-symmetry/statistical-tests-normality-symmetry/shapiro-wilk-test/)

**Question 2:** What are the first and last names of all the actors cast in the movie 'Lord of war'? What roles did they play in that production?

**Question 3:** What are the highest-rated Comedy shorts between 2000 and 2010?

**Question 4:** What is the average number of votes for movies rated between 0-1, 1-2, 2-3, 3-4, 4-5?