Project - Stage1

In the first stage of project, your task is to design interactive ways of relating data from multiple visualizations.

Suppose that you are a big fun of movies, and you try to do some analysis about movies. You find a dataset, which includes information about 5000 movies. Regarding to this dataset, you may have some interesting questions about it (e.g., do movies with more budget are more likely to get higher rating score?). In order to answer such questions, you need help from visualizations (e.g., a graph, a bar chart, a matrix, and a line chart). Since all the visualizations that you use for this analysis are generated based on (part of) data from this dataset, visual elements in the visualizations (e.g., nodes in a graph, and cells in a matrix), are potentially related with each other.

In this project, your specific tasks are as follows:

1. Given the IMDB 5000 Movie Dataset, find an interesting analysis question that needs help with **multiple** visualizations. Here, multiple means **at least three** visualizations.
2. Based on your question, describe:
    - What exact visualizations will help you to answer it? (You are free to design some new visualizations, besides graph, bar chart, pie chart, matrix, etc.)
    - Why do you think these visualizations are helpful?
3. Given the visualizations, design **two** different interactive ways of relating visual elements from them. In your design, you should consider:
    - Three types of relations: *one-to-one*, *one-to-many*, *many-to-many*. For example, as *a one-to-many* relation, one node in a graph is related with three bars in a bar chart.
    - Number of relations: *one* and *many* (e.g., one many-to-many relation, and six one-to-many relations)
    - How such relations can be visually displayed (e.g., highlight, links, or other ways)?
    - What interactions that users can perform to see the relations?
4. Comparing your two designs, discuss the pros and cons for each of them.

You can use any design tools for this project. You do not need to implement your two designs with codes. You are encouraged to work on the project in a group. The movie dataset can be found in the attachment, and more detail can be found: https://www.kaggle.com/carolzhangdc/imdb-5000-movie-dataset.

Write a document with your discussion regarding to the above tasks. The document should be in MS Word (Times New Roman font, size 12, single line spacing, no page limit). Also, submit all screenshots of your designs or sketches during your design process.