Procedures

INITIALIZATION:

The neural network was built and initialized in Python. Python 3.7.3 was the latest version used for the experiment. The libraries installed and imported into python include numpy, sci-kit, pandas, seaborn, and matplotlib. The experiment will function properly on any IDE.

DATA COLLECTION:

The input variables for this experiment included the following: Production budget, Opening theater count, YouTube trailer view count, and Rotten Tomatoes score. The source of these data came from multiple sources.

* Production budget and Opening theater count – the-numbers.com
* YouTube trailer view count – boxofficereport.com
* Rotten Tomatoes score – rottentomatoes.com

The output of the neural network is whether the movie was a success or failure, how this was determined and where it was collected is researching if the domestic opening weekend box office exceeded or fell below predictions. These predictions came from boxofficereport.com while some came from various news sites who report whether movies met expectations or not. The difficulty in this method is deciding if a movie’s opening weekend is really a success or failure just based on predictions.

After 90 data points were collected, the data was normalized to simplify the numbers for the neural network using an equation for the data points to be between 0 and 1. All of the data was normalized. The data was then transferred to a CSV file and imported into the neural network using pandas.