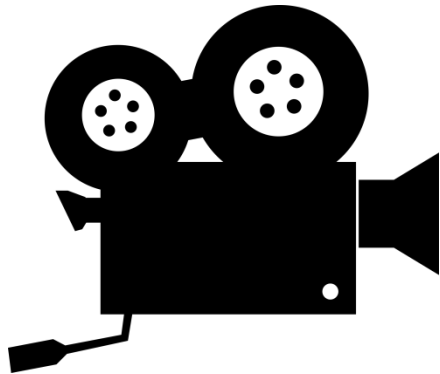


Predicting Box Office Earnings with Box Office **Mojo**



By Kaleb Erickson

Scraping Box Office Mojo

- Only pulled top weekly films from 1981 - 2019
- 90 second delay between pulls

Issues:

- Some films missing values (Disney, old films)
- IMDB links to current showtimes
- Secondary releases

Harry Potter and the Sorcerer's Stone

Domestic Total Gross: **\$317,575,550**

Domestic Lifetime Gross: **\$317,871,467**

Distributor: **Warner Bros.**

Release Date: **November 16, 2001**

Genre: **Fantasy**

Runtime: **2 hrs. 33 min.**

MPAA Rating: **PG**

Production Budget: **\$125 million**

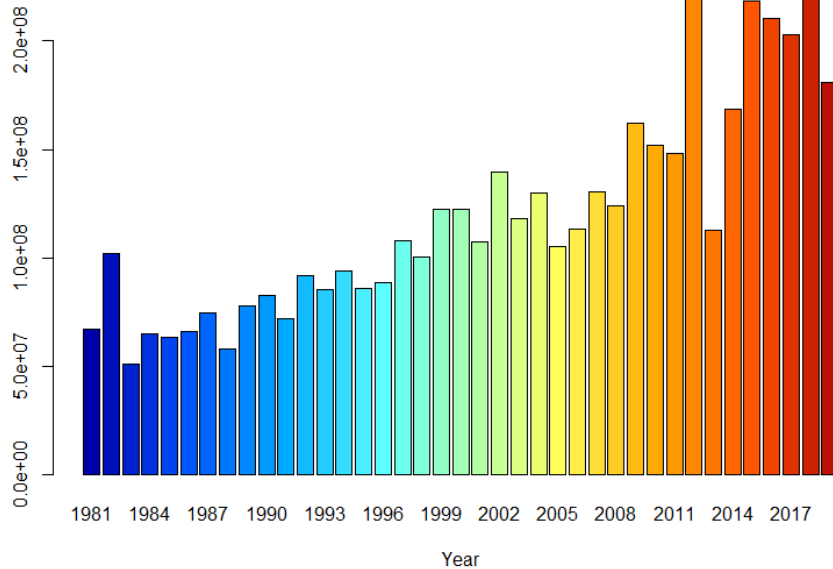


Get local showtimes at [IMDb](#)

Data Exploration

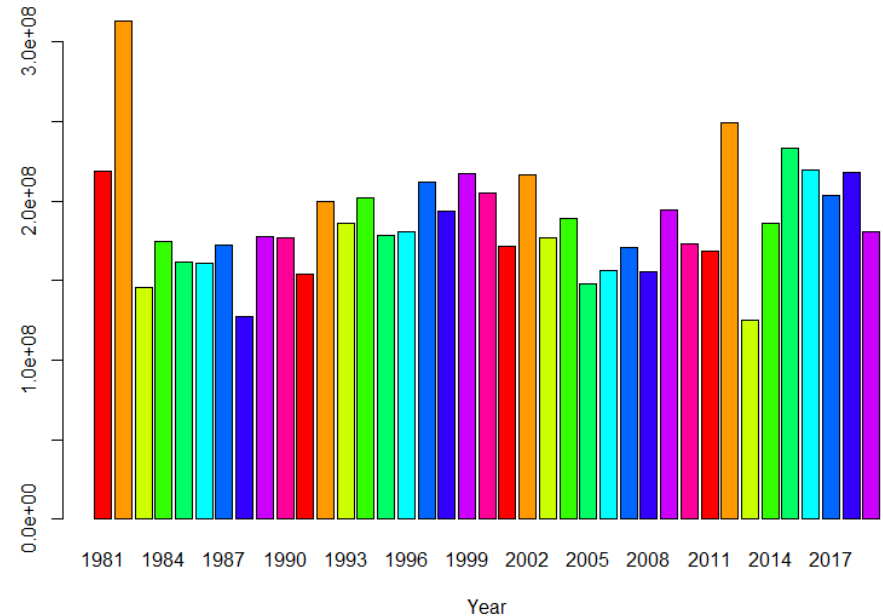
- Dealing with Inflation

Average Domestic Earnings by Year



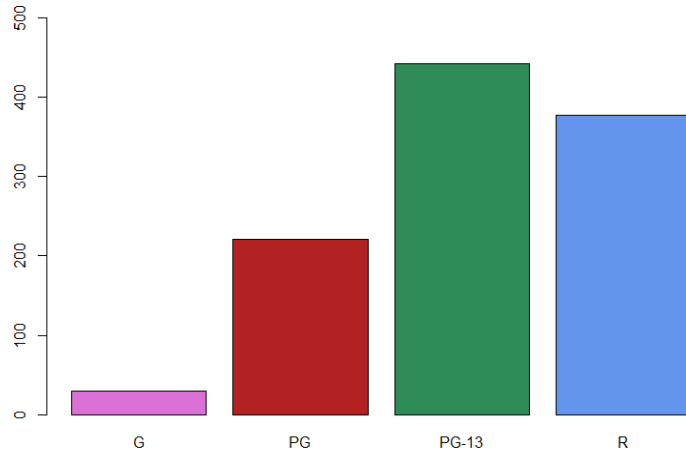
- Average Price by Year

Adjusted Domestic Earnings by Year

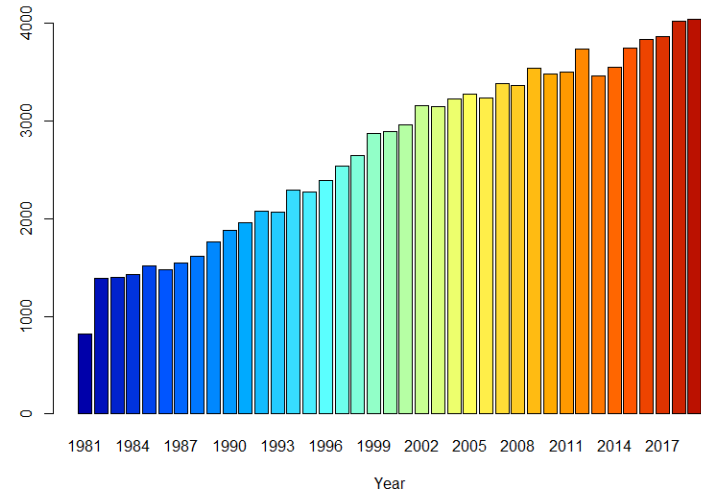


Data Exploration Pt. 2

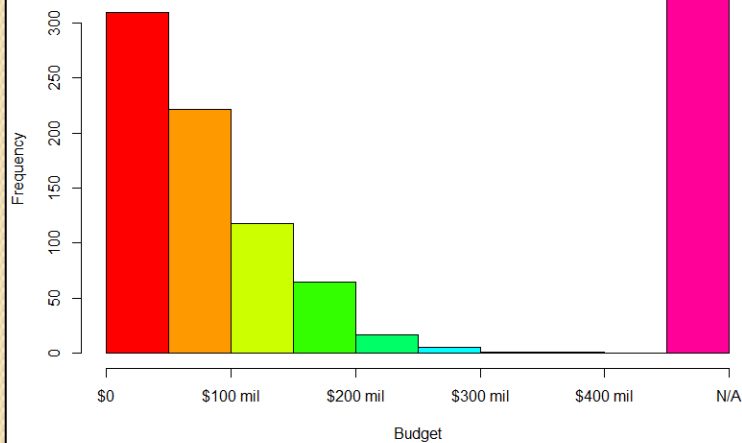
Frequency of Ratings



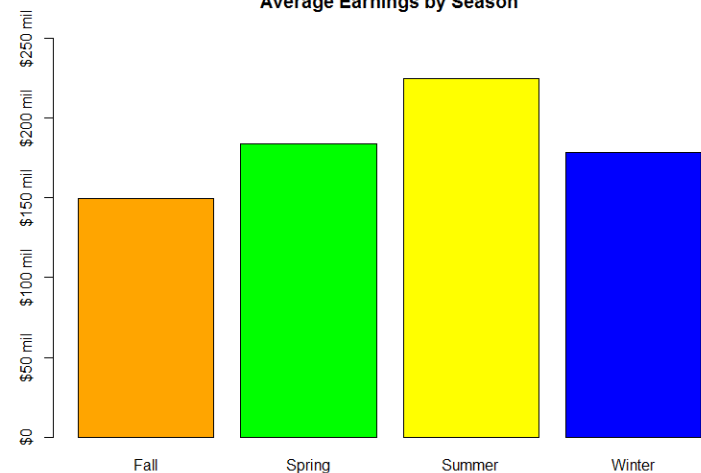
Average Theater Releases by Year



Film Budgets

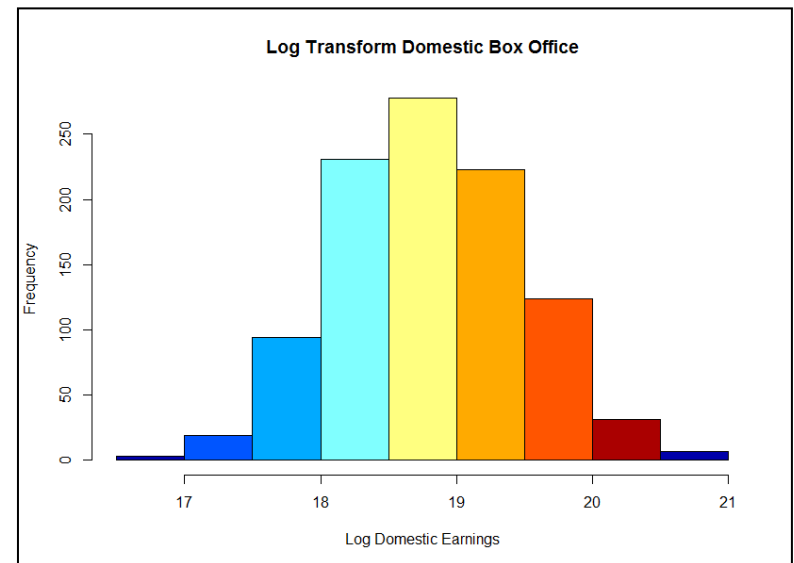
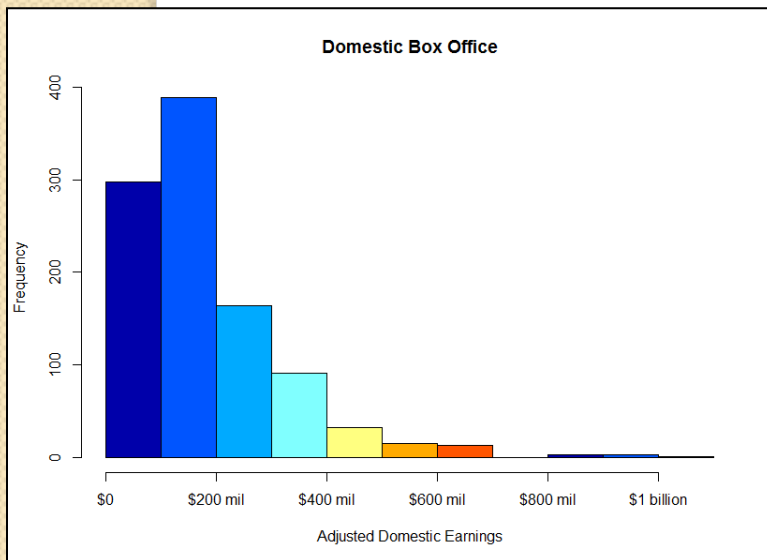
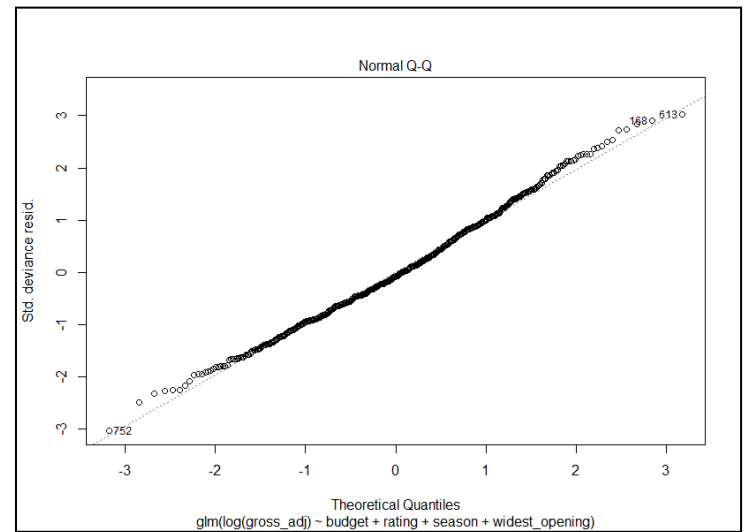


Average Earnings by Season



Fitting a Model

- Linear Regression
- Transforming Data
- Limitations



Final App

- Can be found here:

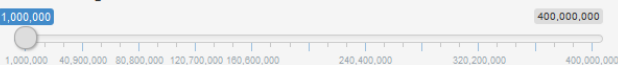
<https://kalebe.shinyapps.io/Box-Office-Predictions/>

Box Office Projections

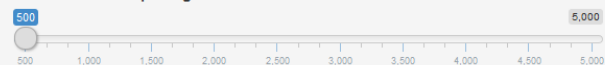
Use this app to predict the domestic box office earnings for a movie!

Select a budget, the widest theater opening, the rating, and the release season to see the predicted earnings:

Movie Budget:



Widest Theater Opening:



Rating:

G

Season:

Spring

Here are some example films:

Antz (1998)

Budget: \$105 million, Widest Opening: 2,929, Rating: PG, Season: Fall

Predicted Domestic Earnings: \$186,714,985

Actual Domestic Earnings: \$174,355,724

For the selected values, the predicted box office earnings is \$67,545,576

Below are some histograms that show the distribution of box office earnings across film ratings and throughout the year. These aren't related to the prediction, but are controlled by the selected Rating and Season on the left.

Distribution of earnings for films rated G

