Final_Project

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Introduction

With the help of the dataset available in the Internet Movie Database (IMDb), we are trying to find which director has the most successful movies based on the ratings provided by the common people, critics, etc.

Problem statement addressed

To find successful movie directors based on the ratings provided by movie viewers.

How you addressed this problem statement

1. Collecting Data
2. Combing the data sets
3. Cleaning the Data
4. Plots

a. Scatter plot
b. Box Plot
c. Trend Lines
d. Histogram

Analysis

Importing and Cleaning Data

Rating Dataset importing

```
library(readr)
```

```
## Warning: package 'readr' was built under R version 4.0.5
```

```
library(tidyr)
```

```
## Warning: package 'tidyr' was built under R version 4.0.5
```

```
df_ratings <- read_tsv('data.tsv', na = "\\N", quote = '')
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   tconst = col_character(),
##   averageRating = col_double(),
##   numVotes = col_double()
## )
```

```
df_ratings<- na.omit(df_ratings)
head(df_ratings)
```

```
## # A tibble: 6 x 3
##   tconst    averageRating numVotes
##   <chr>             <dbl>    <dbl>
## 1 tt0000001           5.7     1702
## 2 tt0000002           6.1      210
## 3 tt0000003           6.5     1461
## 4 tt0000004           6.2      123
## 5 tt0000005           6.2     2261
## 6 tt0000006           5.1      127
```

Crew Dataset importing

```
df_crews <- read_tsv('crew_data.tsv',na = "\\N")
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   tconst = col_character(),
##   directors = col_character(),
##   writers = col_character()
## )
```

```
df_crews<- na.omit(df_crews)
head(df_crews)
```

```
## # A tibble: 6 x 3
##   tconst    directors writers
##   <chr>     <chr>     <chr>
## 1 tt0000009 nm0085156 nm0085156
## 2 tt0000036 nm0005690 nm0410331
## 3 tt0000076 nm0005690 nm0410331
## 4 tt0000091 nm0617588 nm0617588
## 5 tt0000108 nm0005690 nm0410331
## 6 tt0000109 nm0005690 nm0410331
```

Title Dataset importing

```
library(dplyr)
```

```
## Warning: package 'dplyr' was built under R version 4.0.5

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
df_title_temp <- read_tsv('title_data.tsv',na = "\\N",quote = '')
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   titleId = col_character(),
##   ordering = col_double(),
##   title = col_character(),
##   region = col_character(),
##   language = col_character(),
##   types = col_character(),
##   attributes = col_character(),
##   isOriginalTitle = col_double()
## )
```

```
df_title_temp<- na.omit(df_title_temp)
df_title<-df_title_temp %>% filter(ordering<=1)
head(df_title)
```

```
## # A tibble: 6 x 8
##   titleId  ordering title      region language types attributes  isOriginalTitle
##   <chr>       <dbl> <chr>      <chr>  <chr>    <chr> <chr>                 <dbl>
## 1 tt00225~        1 Di shtime~ US     yi       alte~ YIVO trans~               0
## 2 tt00279~        1 Libe un L~ US     yi       alte~ modern tra~               0
## 3 tt00326~        1 Der yidis~ US     yi       alte~ YIVO trans~               0
## 4 tt00651~        1 Altin Han~ TR     tr       alte~ dubbed ver~               0
## 5 tt00668~        1 Kimin Umu~ TR     tr       imdb~ alternativ~               0
## 6 tt00797~        1 Mavile Kr~ TR     tr       imdb~ dubbed ver~               0
```

Final Dataset

Merging all the datasets on the movie id

```r
df_combined <- merge(df_crews,df_ratings)
df_final <-merge(df_title,df_combined,by.x="titleId",by.y="tconst")
head(df_final)
```

```
##     titleId ordering                                        title region
## 1 tt0065172        1                                 Altin Hançer     TR
## 2 tt0066854        1 Kimin Umurunda: Teslimatçi Çocugun Anatomisi     TR
## 3 tt0079768        1                               Mavile Kraliçe     TR
## 4 tt0145916        1                                Bekçi Murtaza     TR
## 5 tt0185027        1                                Yilmayan adam     TR
## 6 tt0259685        1                           Yeralti Canavari 3     TR
##   language       types                  attributes isOriginalTitle
## 1       tr alternative              dubbed version               0
## 2       tr imdbDisplay alternative transliteration               0
## 3       tr imdbDisplay              dubbed version               0
## 4       tr imdbDisplay              complete title               0
## 5       tr imdbDisplay                poster title               0
## 6       tr imdbDisplay                   new title               0
##             directors                                 writers averageRating
## 1           nm0387354                     nm0387354,nm2424349           6.3
## 2 nm0267064,nm1293361                               nm0267064           6.9
## 3           nm0640496                               nm0262783           2.5
## 4           nm0059633                     nm0252375,nm0447158           6.7
## 5           nm0040220                               nm1147694           5.2
## 6           nm0534681 nm0934093,nm0534681,nm0731443,nm0924095           5.3
##   numVotes
## 1      128
## 2      128
## 3      116
## 4       68
## 5      301
## 6    16669
```

```r
#Modifying the director id for the visualization purpose
df_final$directors[df_final$directors=="nm7132415,nm0880127,nm12374633,nm3123733,nm1699658"]<-"nm7132415
```

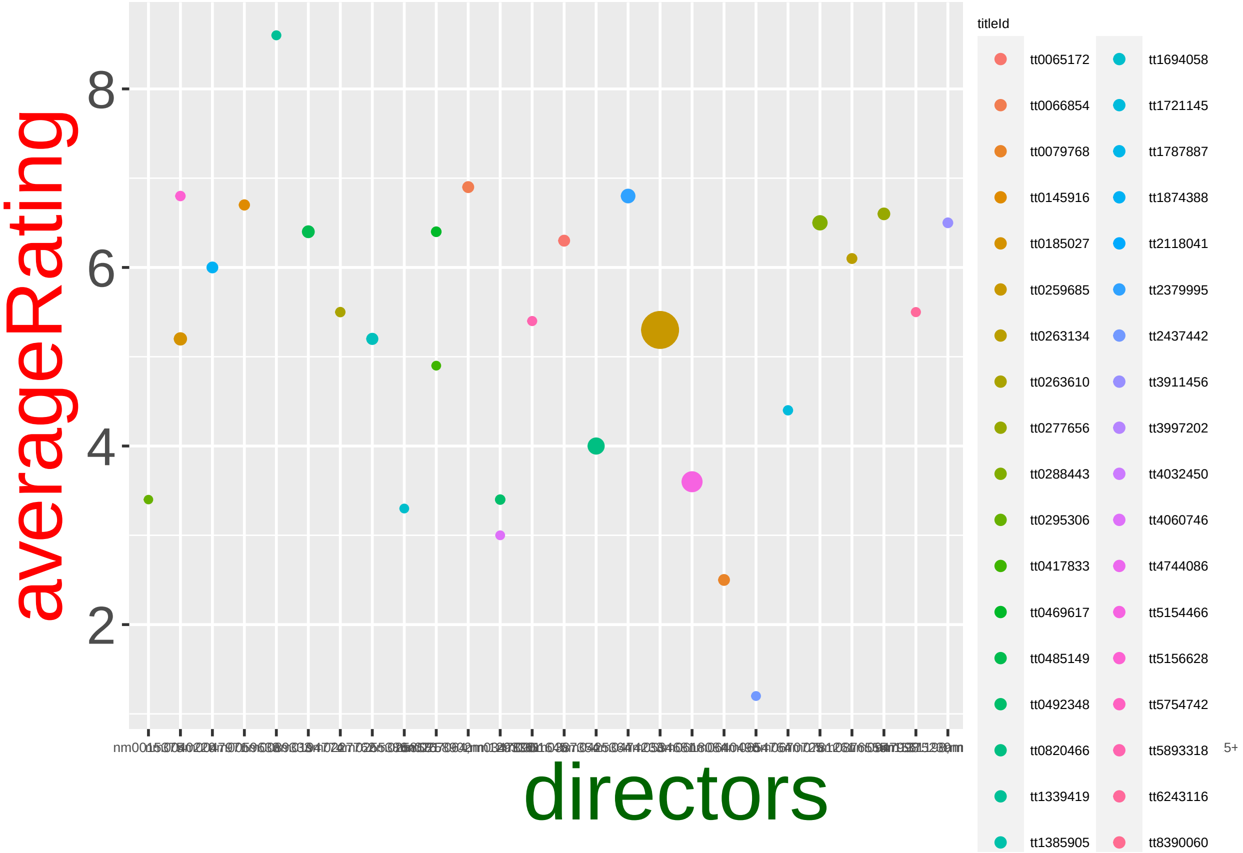
Implications

Scatter plot

```r
library(ggplot2)
```

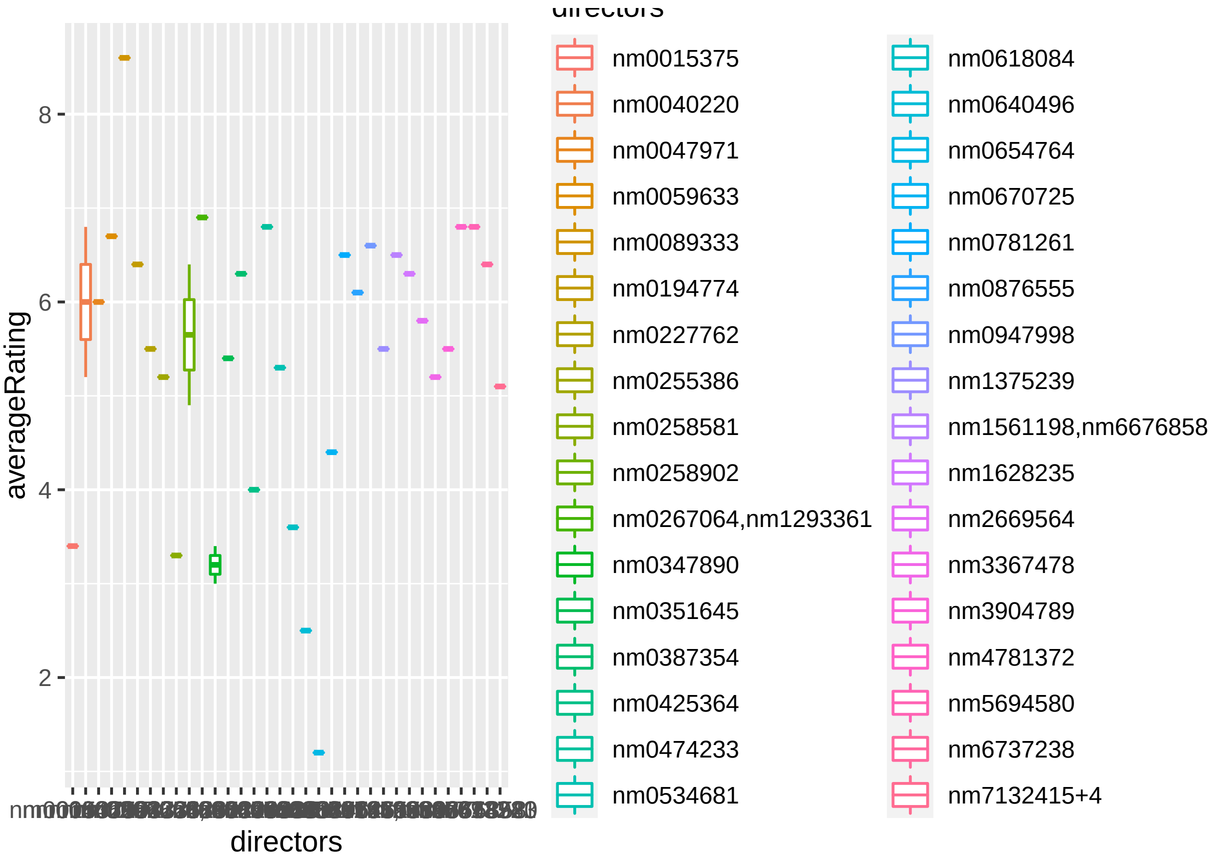
```
## Warning: package 'ggplot2' was built under R version 4.0.5
```

```r
scatter_plot <- ggplot(data=df_final,aes(x=directors,y=averageRating,size=numVotes))+geom_point(aes(col
  theme(axis.title.x=element_text(colour="DarkGreen",size = 30),
        axis.title.y = element_text(colour = "Red",size = 30),
        axis.text.x = element_text(size=5),
        axis.text.y = element_text(size=20),
        legend.title = element_text(size=5),
        legend.text=element_text(size=5),
        legend.position = c(1,1),
        legend.justification = c(1,1))
scatter_plot
```



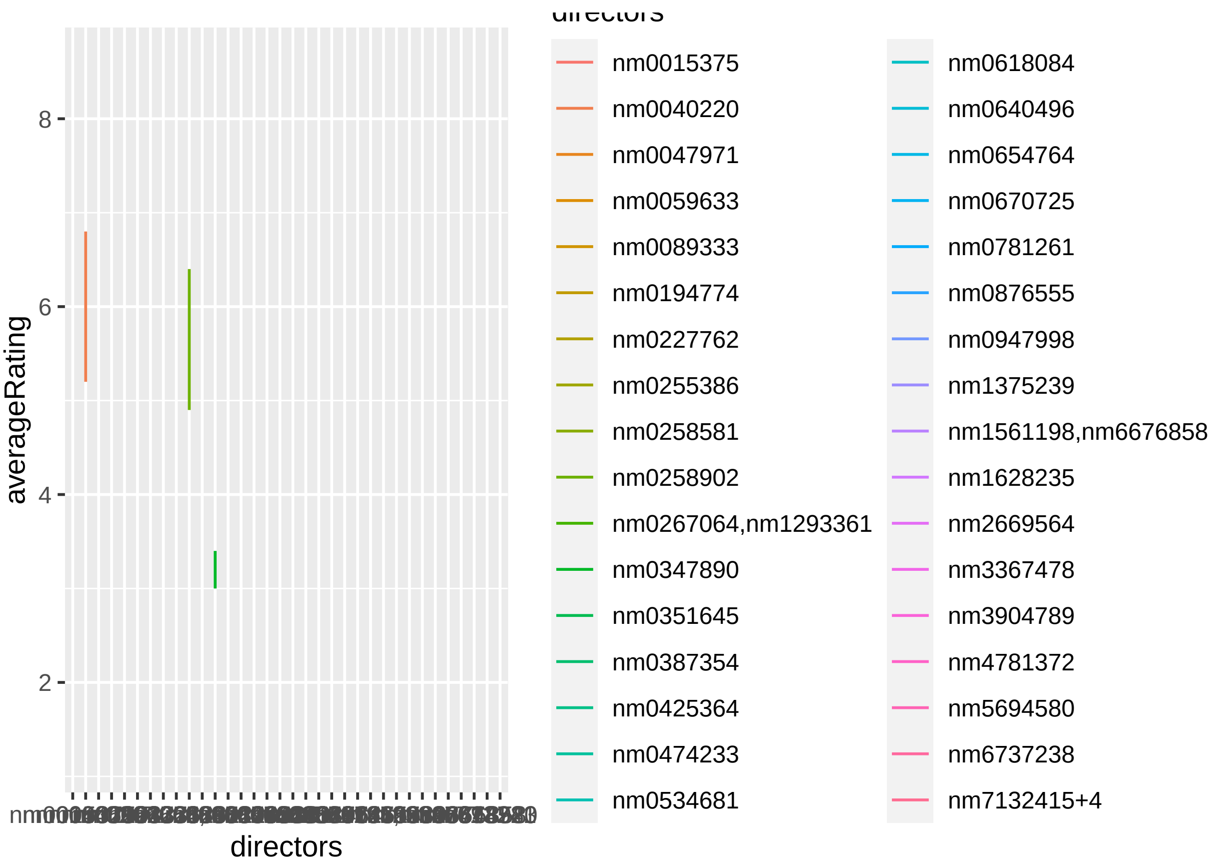
Boxplot

```
boxplot<-ggplot(data=df_final,aes(x=directors,y=averageRating,colour=directors))+geom_boxplot(aes(colou
  theme(axis.title.x=element_text(colour="DarkGreen",size = 30),
        axis.title.y = element_text(colour = "Red",size = 30),
        axis.text.x = element_text(size=2),
        axis.text.y = element_text(size=20),
        legend.title = element_text(size=2),
        legend.text=element_text(size=2),
        legend.position = c(1,1),
        legend.justification = c(1,1)))
boxplot
```



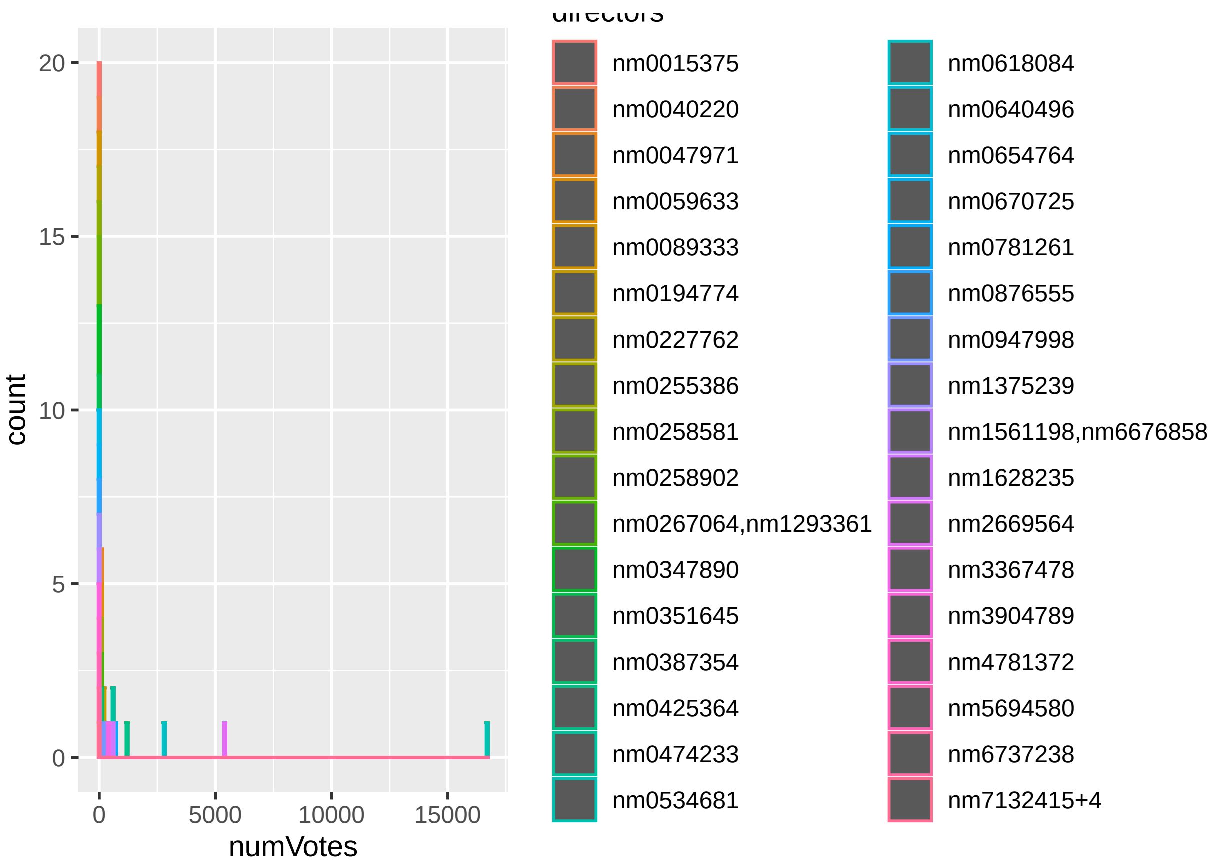
Trend lines

```
trend_line<-ggplot(data=df_final,aes(x=directors,y=averageRating,colour=directors))+geom_line()
trend_line
```



Histogram

```
histogram<-ggplot(data=df_final,aes(x=numVotes,colour=directors))+geom_histogram(binwidth = 100)
histogram
```



Limitation

As part of handling the missing data and combining the dataset, we have lost more data and the data loss is almost more than 50%. So, the prediction may vary from the exact answer because there is a huge chance of probability of missing good movies and directors due to missing value.Also, plots are not visible properly because of the labeling but I have tried my level best to display it in a better way.

Conclusion

As per the analysis, I have found that the director with Id – nm0040220 has a high number of movie ratings, and based on our data, he is the best director. But there is a huge possibility that this data result may vary only because of missing data.