Assignment 02

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This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

Data Load

```
## [1] "data.frame"
```

Data Exploration

```
##        ID user movie rating
## 1 610739 3704  3784      3
## 2 324753 1924   802      3
## 3 808218 4837  1387      4
## 4 133808  867  1196      4
## 5 431858 2631  3072      5
## 6 895320 5410  2049      4
```

```
##   user movie rating
## 1 3704  3784      3
## 2 1924   802      3
## 3 4837  1387      4
## 4  867  1196      4
## 5 2631  3072      5
## 6 5410  2049      4
```
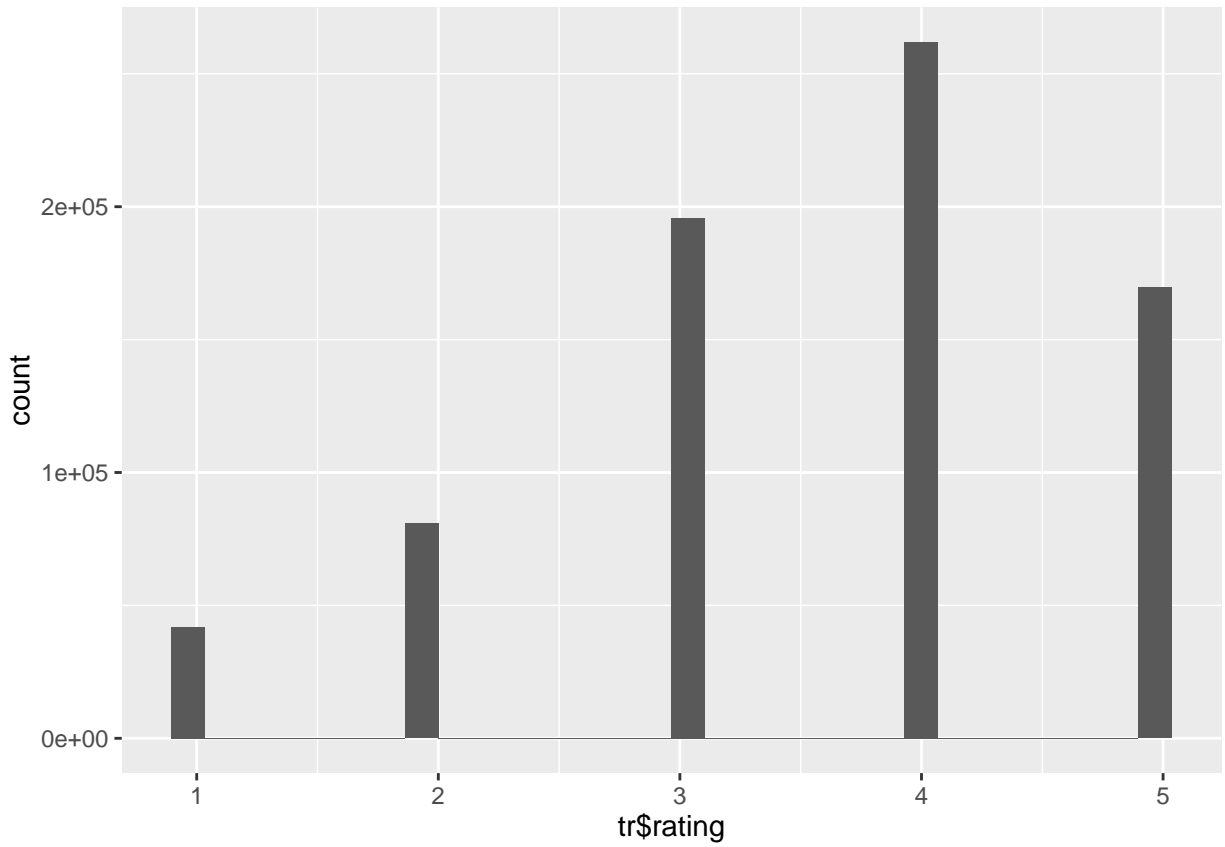
Table 1: Data Summary

user	movie	rating
Min. : 1	Min. : 1	Min. :1.000
1st Qu.:1509	1st Qu.:1030	1st Qu.:3.000
Median :3072	Median :1835	Median :4.000
Mean :3025	Mean :1865	Mean :3.582
3rd Qu.:4478	3rd Qu.:2770	3rd Qu.:4.000
Max. :6040	Max. :3952	Max. :5.000

Table 2: Ratings Frequency Table

Var1	Freq
1	41958
2	80862
3	195864

Var1	Freq
4	261916
5	169556

Utility Matrix

```
## [1] "matrix"
```

```
## [1] 5 0 4 3 2 1
```

vector_ratings	Freq
1	41958
2	80862
3	195864
4	261916
5	169556

Raw ratings

Users (Rows)

Items (Columns)

Dimensions: 500 x 3676
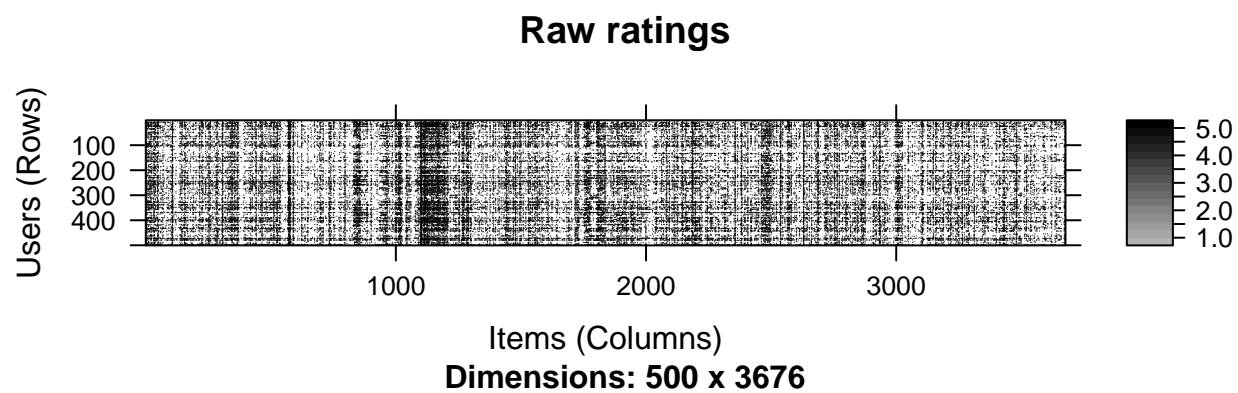
Data visualization

Histogram of ratings
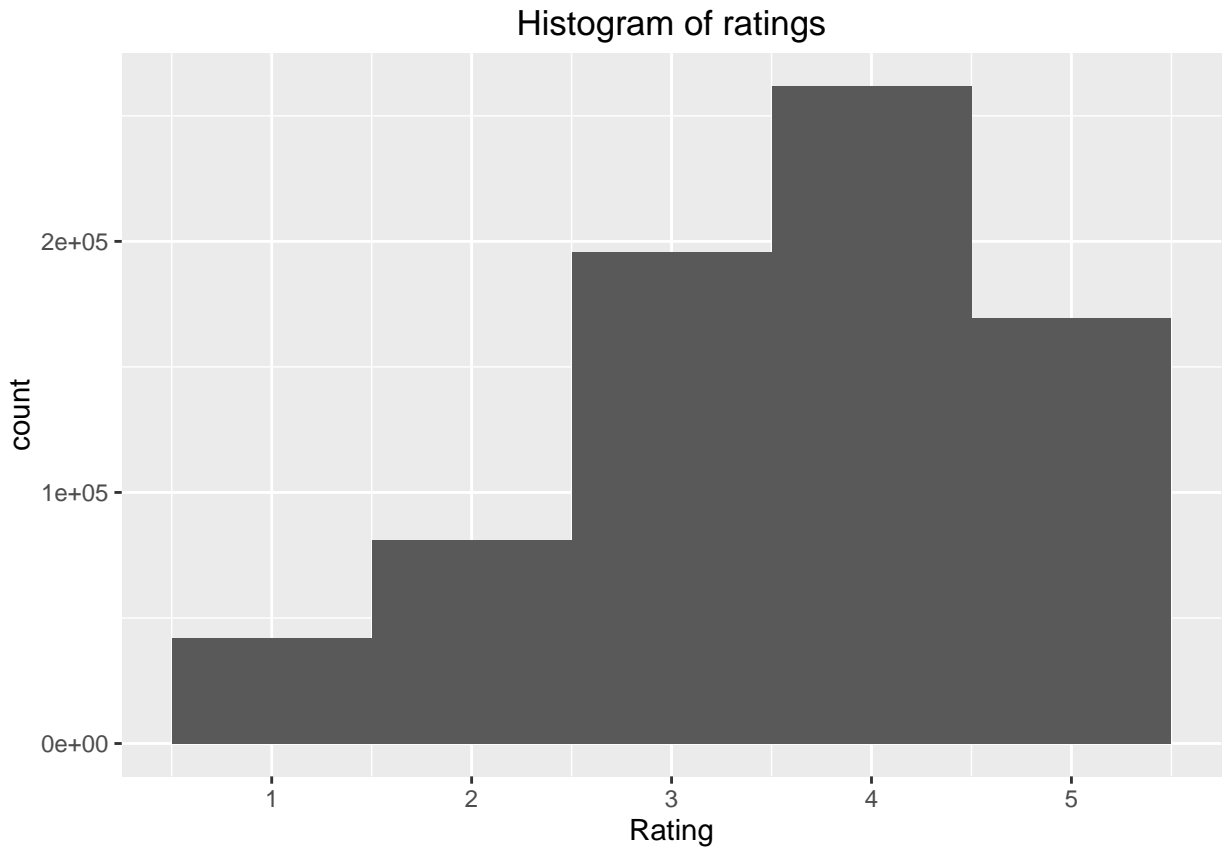

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   1.000   3.000   4.000   3.582   4.000   5.000
```

Histogram of normalized ratings
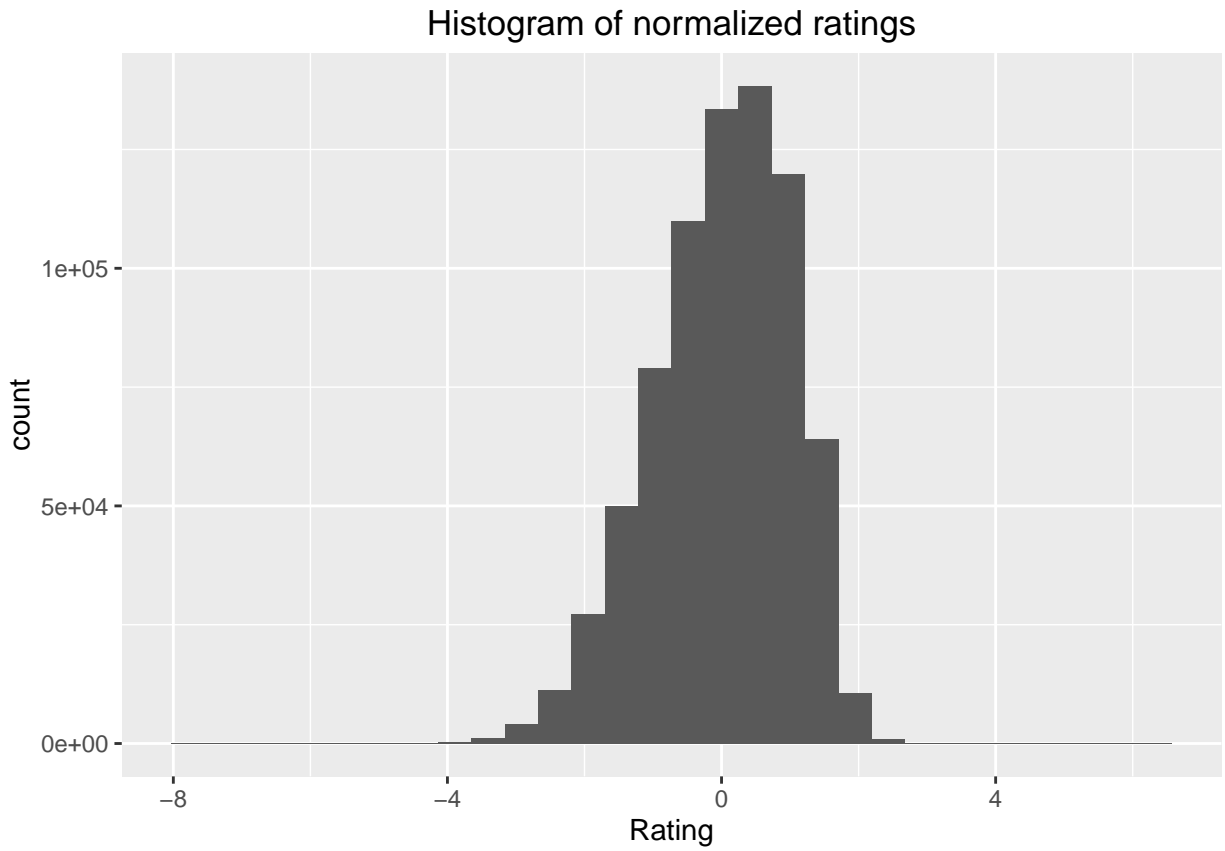

```
##     Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
## -7.6190 -0.6597  0.1143  0.0000  0.7559  6.4820
```

Movies Rated on average

Mean rating of Movies