

# FML\_Assignment\_1

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#source: Downloaded the data set from kaggle.<https://www.kaggle.com/datasets/iamsouravbanerjee/nifty50-stocks-dataset/code?resource=download>.

#Importing the dataset into R

```
#This Library can be used to Load the package
library(readr)
National_Stocks = read.csv("G:/FML_Assignment_1/National_Stock_Exchange_of_India_Ltd.csv")
#Printing the head of dataset
head(National_Stocks)
```

##	Symbol	Open	High	Low	LTP	Chng X..Chng
## 1	ADANIPTS	750	766	713.25	715	-47.45 -6.22
## 2	ASIANPAINT	3,101.00	3,167.35	3,091.00	3,138.00	-6.25 -0.20
## 3	AXISBANK	669	674.9	660.45	661	-18.90 -2.78
## 4	BAJAJ-AUTO	3,370.00	3,383.50	3,320.00	3,335.00	-56.70 -1.67
## 5	BAJAJFINSV	17,200.00	17,237.20	16,610.00	16,684.00	-684.85 -3.94
## 6	BAJFINANCE	7,021.00	7,047.90	6,775.00	6,780.00	-345.80 -4.85

##	Volume..lacs.	Turnover..crs..	X52w.H	X52w.L	X365.d...chng	X30.d...chng
## 1	72.20	532.63	901	384.4	79.22	-4.65
## 2	10.29	322.53	3,505.00	2,117.15	45.66	5.66
## 3	102.53	684	866.9	568.4	10.19	-21.49
## 4	3.42	114.59	4,361.40	3,041.00	9.30	-12.05
## 5	3.42	576.79	19,325.00	8,273.70	91.38	-9.10
## 6	16.89	1,161.63	8,050.00	4,362.00	44.57	-13.69

#Descriptive Statistics: This gives the summary of the data that includes mean,median,mode,range and standard deviation.By this we can know the average values and most frequent values that helps us to understand the data well.

```
#The below functions gives the average of the column Chng
mean(National_Stocks$Chng)
```

```
## [1] -70.133
```

```
#The below function shows the data types of the variables that are in the dataset
str(National_Stocks)
```

```
## 'data.frame':    50 obs. of  13 variables:
## $ Symbol      : chr  "ADANIPOINTS" "ASIANPAINT" "AXISBANK" "BAJAJ-AUTO" ...
## $ Open        : chr  "750" "3,101.00" "669" "3,370.00" ...
## $ High        : chr  "766" "3,167.35" "674.9" "3,383.50" ...
## $ Low         : chr  "713.25" "3,091.00" "660.45" "3,320.00" ...
## $ LTP         : chr  "715" "3,138.00" "661" "3,335.00" ...
## $ Chng        : num  -47.45 -6.25 -18.9 -56.7 -684.85 ...
## $ X..Chng     : num  -6.22 -0.2 -2.78 -1.67 -3.94 -4.85 -3.83 -5.67 -0.19 7.23 ...
## $ Volume..lacs.: num  72.2 10.29 102.53 3.42 3.42 ...
## $ Turnover..crs.: chr  "532.63" "322.53" "684" "114.59" ...
## $ X52w.H      : chr  "901" "3,505.00" "866.9" "4,361.40" ...
## $ X52w.L      : chr  "384.4" "2,117.15" "568.4" "3,041.00" ...
## $ X365.d...chng : num  79.2 45.7 10.2 9.3 91.4 ...
## $ X30.d...chng  : num  -4.65 5.66 -21.49 -12.05 -9.1 ...
```

*#summary can be used to print descriptive statistics such as mean,medium,mode on given variables*

```
summary(National_Stocks)
```

```
##      Symbol      Open      High      Low
## Length:50      Length:50      Length:50      Length:50
## Class :character Class :character Class :character Class :character
## Mode  :character Mode  :character Mode  :character Mode  :character
##
##
##      LTP      Chng      X..Chng      Volume..lacs.
## Length:50      Min.   :-770.500      Min.   :-7.480      Min.   : 0.30
## Class :character 1st Qu.: -66.775      1st Qu.: -4.527      1st Qu.: 13.47
## Mode  :character Median : -29.975      Median : -3.300      Median : 30.75
##                  Mean  : -70.133      Mean   :-2.930      Mean   : 71.27
##                  3rd Qu.: -7.812      3rd Qu.: -1.933      3rd Qu.: 99.20
##                  Max.   : 158.400      Max.    : 7.230      Max.   :517.88
## Turnover..crs..   X52w.H      X52w.L      X365.d...chng
## Length:50      Length:50      Length:50      Min.   :-16.020
## Class :character Class :character Class :character 1st Qu.: 9.375
## Mode  :character Mode  :character Mode  :character Median : 35.860
##                  Mean   : 41.203
##                  3rd Qu.: 65.942
##                  Max.   :167.950
## X30.d...chng
## Min.   :-22.080
## 1st Qu.: -9.665
## Median : -5.705
## Mean   : -5.997
## 3rd Qu.: -2.223
## Max.   : 6.360
```

*#Here I used the log transformation for the variable volume.*

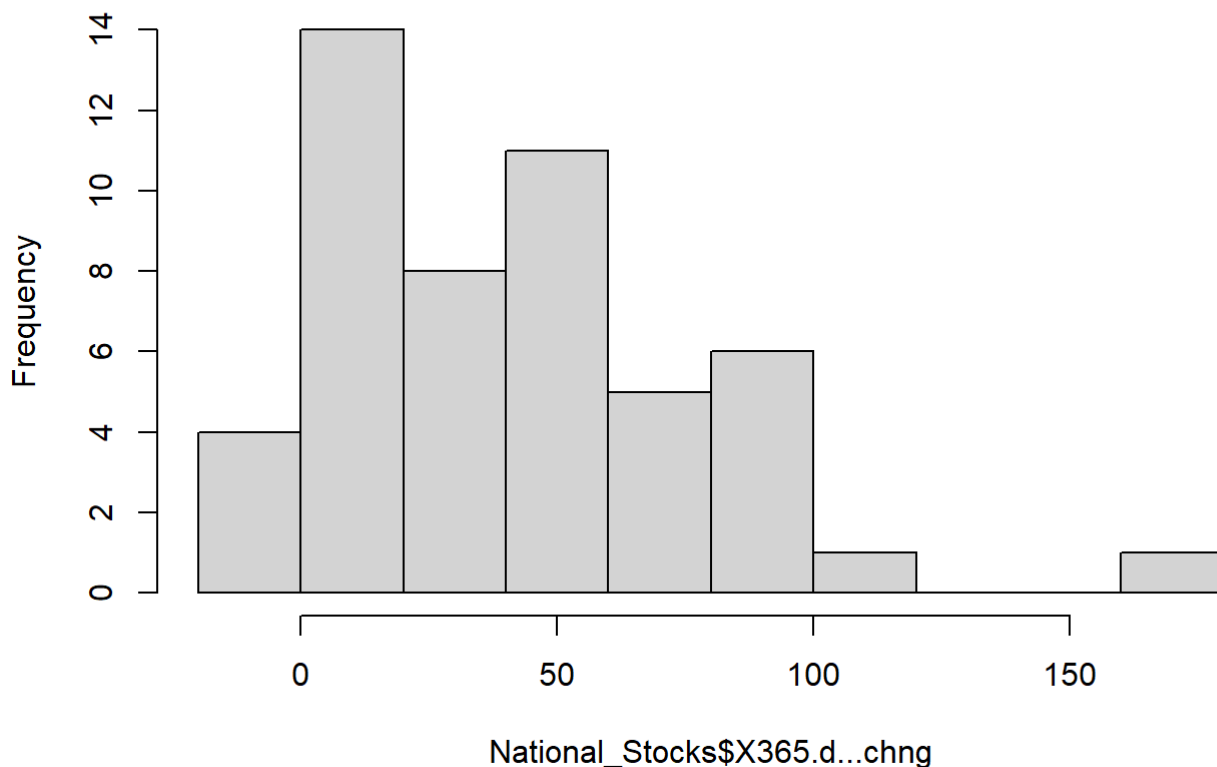
```
#To calculate log transformation
log_value <- log(National_Stocks$Volume..lacs.)
log_value
```

```
## [1] 4.2794400 2.3311725 4.6301554 1.2296406 1.2296406 2.8267217
## [7] 4.7133966 4.6074675 1.3164082 4.9739022 4.7732238 2.7542975
## [13] 2.3721112 1.7137979 2.0122328 3.0942192 3.5124406 4.5338890
## [19] 3.1077208 1.9242487 4.9989675 3.1990812 5.2463923 4.2115348
## [25] 3.8053283 4.3470469 5.5994215 4.4911052 3.2763897 3.3311325
## [31] 3.6722418 2.4466854 -0.5798185 4.8921520 5.4439749 4.5654934
## [37] 4.2870289 3.1424267 5.5723821 -1.2039728 3.9950766 3.2646137
## [43] 6.2497436 4.6677693 2.9657884 2.7226104 2.5564518 0.9783261
## [49] 3.2116498 3.7230393
```

#This is the histogram of an quantitative variable that is showing the stocks changing in a year.

```
hist(National_Stocks$X365.d...chng)
```

**Histogram of National\_Stocks\$X365.d...chng**



#The plot below shows the scatter plot between Volume in lakhs and Percentage of Change variables.

```
plot(x = National_Stocks$Volume..lacs.,
     y = National_Stocks$X365.d...chng,
     xlab = "Volume in lakhs",
     ylab = "Percentage of Change",
     main = "Stock Price Variation per Year",
     pch = 19,
     col = "green"
)
```

Stock Price Variation per Year

