FML - Jan29th

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2026-01-29

```
library(readr)
filtered_data <- read_csv("/Users/roc/Downloads/filtered_data.csv")
```

```
## Rows: 503 Columns: 14
## ── Column specification ────────────────────────────────────────────────────
─
## Delimiter: ","
## chr  (4): Symbol, Name, Sector, SEC Filings
## dbl (10): Price, Price/Earnings, Dividend Yield, Earnings/Share, 52 Week Low...
##
## ℹ Use `spec()` to retrieve the full column specification for this data.
## ℹ Specify the column types or set `show_col_types = FALSE` to quiet this messag
e.
```

```
#I have dataset of S&P 500 companies with their sectors, share price and other fin
ancial indicators.I import the dataset into R Studio to utilize information for as
signment purpose. I will first use "head" to understand it.

head(filtered_data)
```

```
## # A tibble: 6 × 14
##   Symbol Name    Sector Price `Price/Earnings` `Dividend Yield` `Earnings/Share
`
##   <chr>  <chr>   <chr>  <dbl>            <dbl>            <dbl>            <dbl
>
## 1 MMM    3M      Indus… 152.              21.3           0.0199             7.1
5
## 2 AOS    A. O. … Build…  67.3             18.5           0.0196             3.6
3
## 3 ABT    Abbott… Healt… 128.              16.7           0.0202             7.6
4
## 4 ABBV   AbbVie  Biote… 184.              64.3           0.0373             2.8
6
## 5 ACN    Accent… IT Co… 385.              32.3           0.017             11.9
## 6 ADBE   Adobe … Appli… 437.              35.4          NA                 12.4
## # ℹ 7 more variables: `52 Week Low` <dbl>, `52 Week High` <dbl>,
## #   `Market Cap` <dbl>, EBITDA <dbl>, `Price/Sales` <dbl>, `Price/Book` <dbl>,
## #   `SEC Filings` <chr>
```

```
#Data has both qualitative and quantitative measures in it e.g P/E ratio as a quan
titative element and sector as qualitative element. Data has been sourced from the
link below;
#https://datahub.io/core/s-and-p-500-companies-financials
```

```
#I will then fetch summary to look at the main components. As the dataset is too l
arge, summary function will provide main factors in data.
summary(filtered_data)
```

```
##     Symbol              Name               Sector              Price
##  Length:503         Length:503         Length:503         Min.   :   9.72
##  Class :character   Class :character   Class :character   1st Qu.:  68.61
##  Mode  :character   Mode  :character   Mode  :character   Median : 122.20
##                                                           Mean   : 220.60
##                                                           3rd Qu.: 233.73
##                                                           Max.   :8016.18
##                                                           NA's   :3
##  Price/Earnings     Dividend Yield    Earnings/Share     52 Week Low
##  Min.   :   3.115   Min.   :0.00020   Min.   :-21.210   Min.   :   6.64
##  1st Qu.:  16.864   1st Qu.:0.01110   1st Qu.:  2.400   1st Qu.:  52.17
##  Median :  25.607   Median :0.01995   Median :  5.240   Median :  96.03
##  Mean   :  39.698   Mean   :0.02293   Mean   :  8.247   Mean   : 169.35
##  3rd Qu.:  37.445   3rd Qu.:0.03270   3rd Qu.:  8.920   3rd Qu.: 182.84
##  Max.   :1080.000   Max.   :0.10850   Max.   :506.340   Max.   :7129.10
##  NA's   :28         NA's   :99        NA's   :4         NA's   :3
##   52 Week High       Market Cap            EBITDA            Price/Sales
##  Min.   :  11.48   Min.   :5.102e+09   Min.   :-3.991e+09   Min.   : 0.06016
##  1st Qu.:  82.67   1st Qu.:1.961e+10   1st Qu.: 1.633e+09   1st Qu.: 1.59925
##  Median : 146.59   Median :3.591e+10   Median : 2.965e+09   Median : 3.29171
##  Mean   : 255.22   Mean   :1.119e+11   Mean   : 6.766e+09   Mean   : 4.68663
##  3rd Qu.: 261.01   3rd Qu.:8.101e+10   3rd Qu.: 6.017e+09   3rd Qu.: 5.98305
##  Max.   :9964.77   Max.   :3.573e+12   Max.   : 1.366e+11   Max.   :71.00903
##  NA's   :3         NA's   :3           NA's   :33           NA's   :4
##    Price/Book       SEC Filings
##  Min.   :  0.4364   Length:503
##  1st Qu.:  1.9922   Class :character
##  Median :  3.5805   Mode  :character
##  Mean   :  8.7478
##  3rd Qu.:  7.7129
##  Max.   :327.1752
##  NA's   :35
```

```
#I will take earning/share of few companies
alpha<- filtered_data$`Earnings/Share`[11:50]
print(alpha)
```

```
##  [1]  17.22   2.89   3.38 -16.76   1.80   5.86   6.50   2.57  15.47   7.53
## [11]   7.54   6.63   4.73   0.53  -0.94   4.25   4.96  13.94   5.03   4.14
## [21]   5.05  24.93   5.75   7.88   1.92   3.27   6.50  11.69   7.04   6.25
## [31]   8.55   8.91  14.66   3.56   2.08   6.49  13.99   1.47   6.83   5.02
```

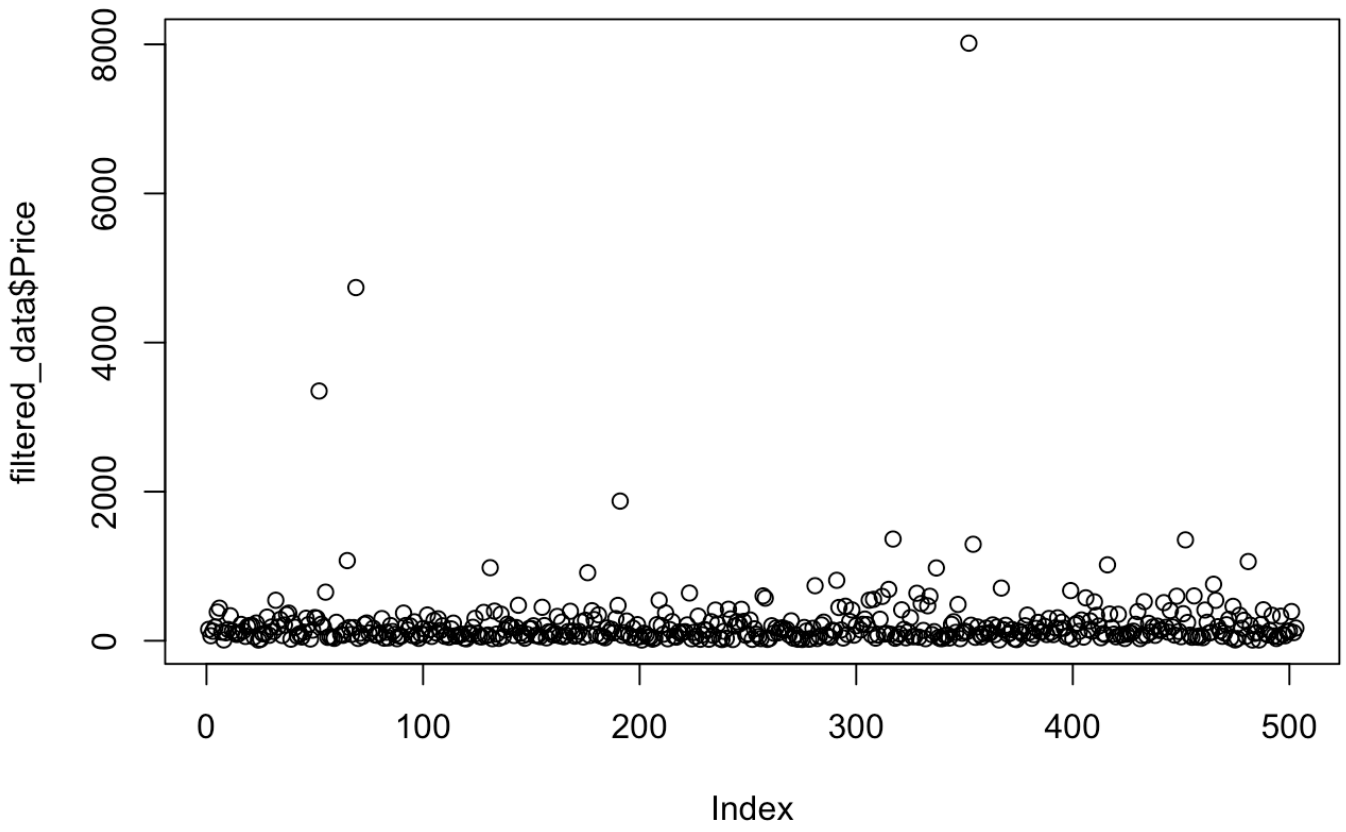
```
#I now sort the EPS in ascending order.
sort(alpha)
```

```
##  [1] -16.76  -0.94   0.53   1.47   1.80   1.92   2.08   2.57   2.89   3.27
## [11]   3.38   3.56   4.14   4.25   4.73   4.96   5.02   5.03   5.05   5.75
## [21]   5.86   6.25   6.49   6.50   6.50   6.63   6.83   7.04   7.53   7.54
## [31]   7.88   8.55   8.91  11.69  13.94  13.99  14.66  15.47  17.22  24.93
```

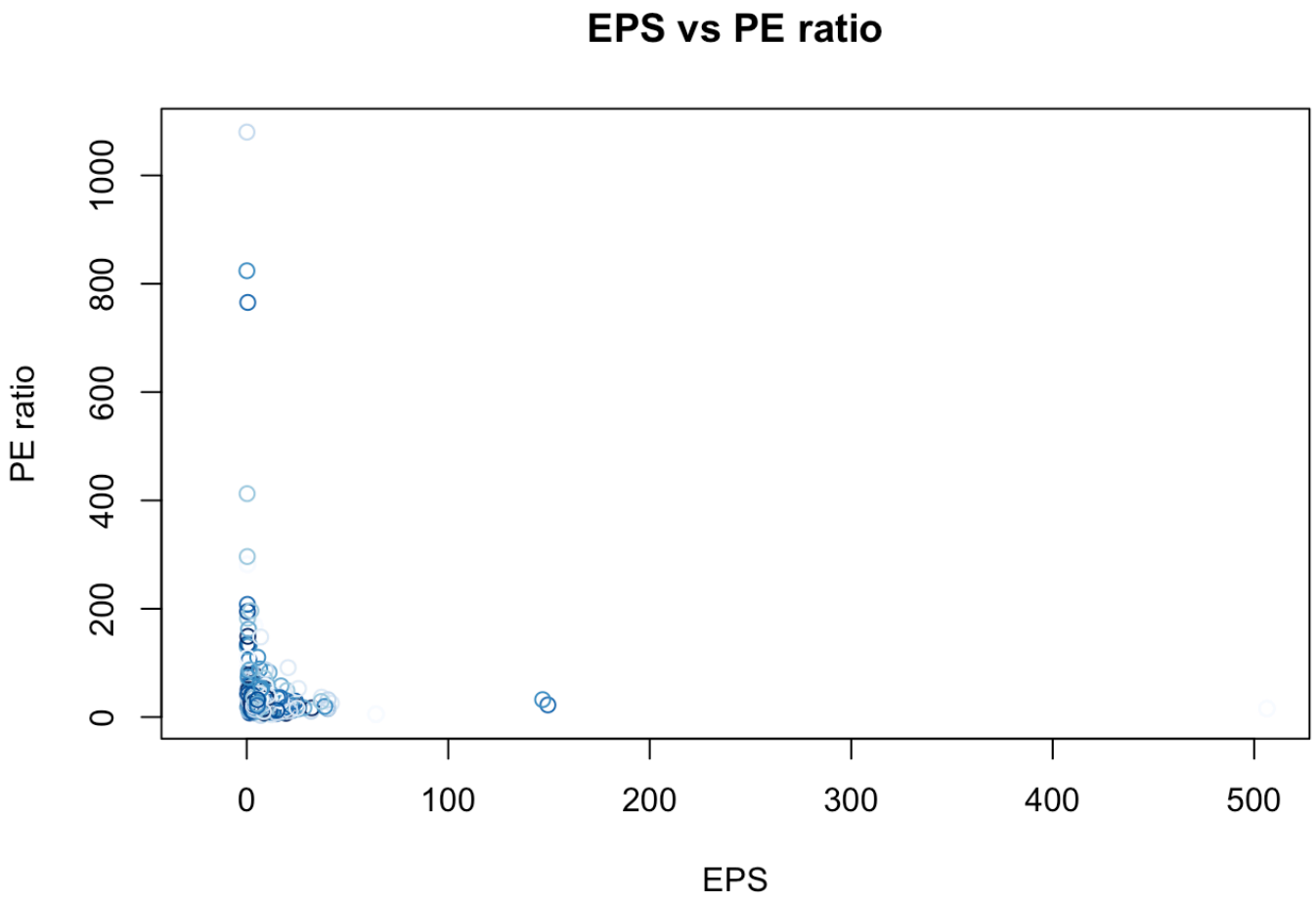
```
#I now create a data frame, which has 2 components. Name of first 5 companies in d
ataset and their Dividend Yield respectively.
data.frame(filtered_data$Name[1:5], filtered_data$`Dividend Yield`[1:5])
```

```
##   filtered_data.Name.1.5. filtered_data..Dividend.Yield..1.5.
## 1                      3M                                0.0199
## 2             A. O. Smith                                0.0196
## 3     Abbott Laboratories                                0.0202
## 4                  AbbVie                                0.0373
## 5               Accenture                                0.0170
```

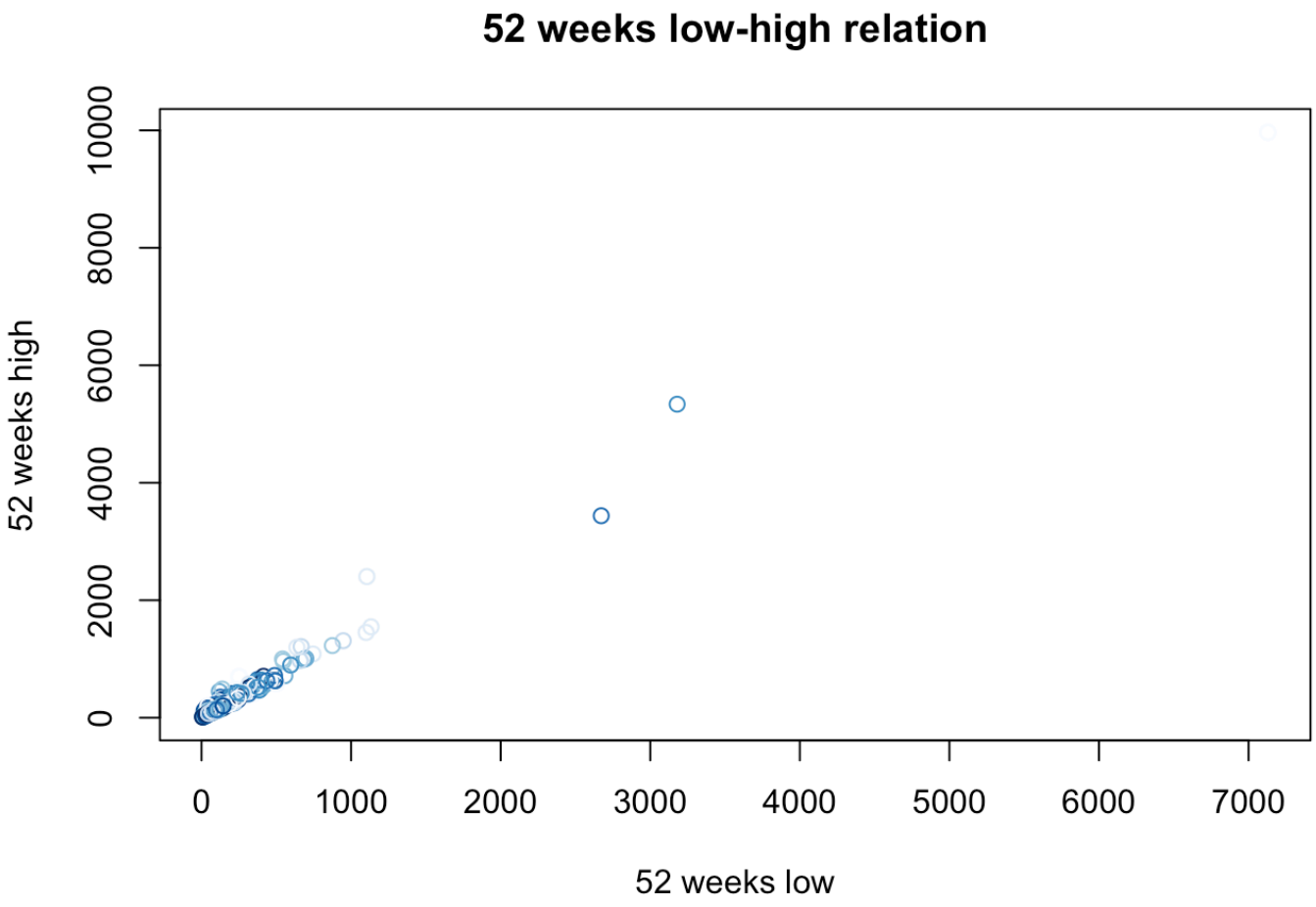
```
#I will now plot the share price of all index companies to have a look at trend an
d outliers.

price_plot<- plot(filtered_data$Price)
```




```
#I will now plot EPS with P/E ratio in scatterplot to look at the trend of companies.

EPS<- filtered_data$`Earnings/Share`
PE<- filtered_data$`Price/Earnings`

plot(x=EPS, y=PE, main="EPS vs PE ratio", xlab= "EPS", ylab= "PE ratio", col=blues9)
```




```
#I will now plot share price of index to see relation between 52 weeks low and 52 weeks high prices.
low<- filtered_data$`52 Week Low`
high<- filtered_data$`52 Week High`
plot(x=low, y=high, main= "52 weeks low-high relation", xlab= "52 weeks low", ylab = "52 weeks high", col=blues9)
```


52 weeks low-high relation
52 weeks high
0
2000
4000
6000
8000
10000
0
1000
2000
3000
4000
5000
6000
7000
52 weeks low