Final Project 3

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```
library(knitr)
opts_chunk$set(echo = FALSE)
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.0 --
```

```
## v ggplot2 3.3.2     v purrr   0.3.4
## v tibble  3.0.4     v dplyr   1.0.2
## v tidyr   1.1.2     v stringr 1.4.0
## v readr   1.4.0     v forcats 0.5.0
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(lubridate)
```

```
##
## Attaching package: 'lubridate'
```

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

```
library(bizdays)
```

```
##
## Attaching package: 'bizdays'
```

```
## The following object is masked from 'package:stats':
##
##     offset
```

```
library(tidyquant)
```

```
## Loading required package: PerformanceAnalytics
```

```
## Loading required package: xts
```

```
## Loading required package: zoo
```

```
##
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
##
##     as.Date, as.Date.numeric
```

```
##
```

```
## Attaching package: 'xts'

## The following objects are masked from 'package:dplyr':
##
##     first, last

##
## Attaching package: 'PerformanceAnalytics'

## The following object is masked from 'package:graphics':
##
##     legend

## Loading required package: quantmod

## Loading required package: TTR

## Registered S3 method overwritten by 'quantmod':
##   method            from
##   as.zoo.data.frame zoo

## == Need to Learn tidyquant? ============================================
## Business Science offers a 1-hour course - Learning Lab #9: Performance Analysis & Portfolio Optimiza
## </> Learn more at: https://university.business-science.io/p/learning-labs-pro </>
```

```
library(tidyr)
library(magrittr)
```

```
##
## Attaching package: 'magrittr'

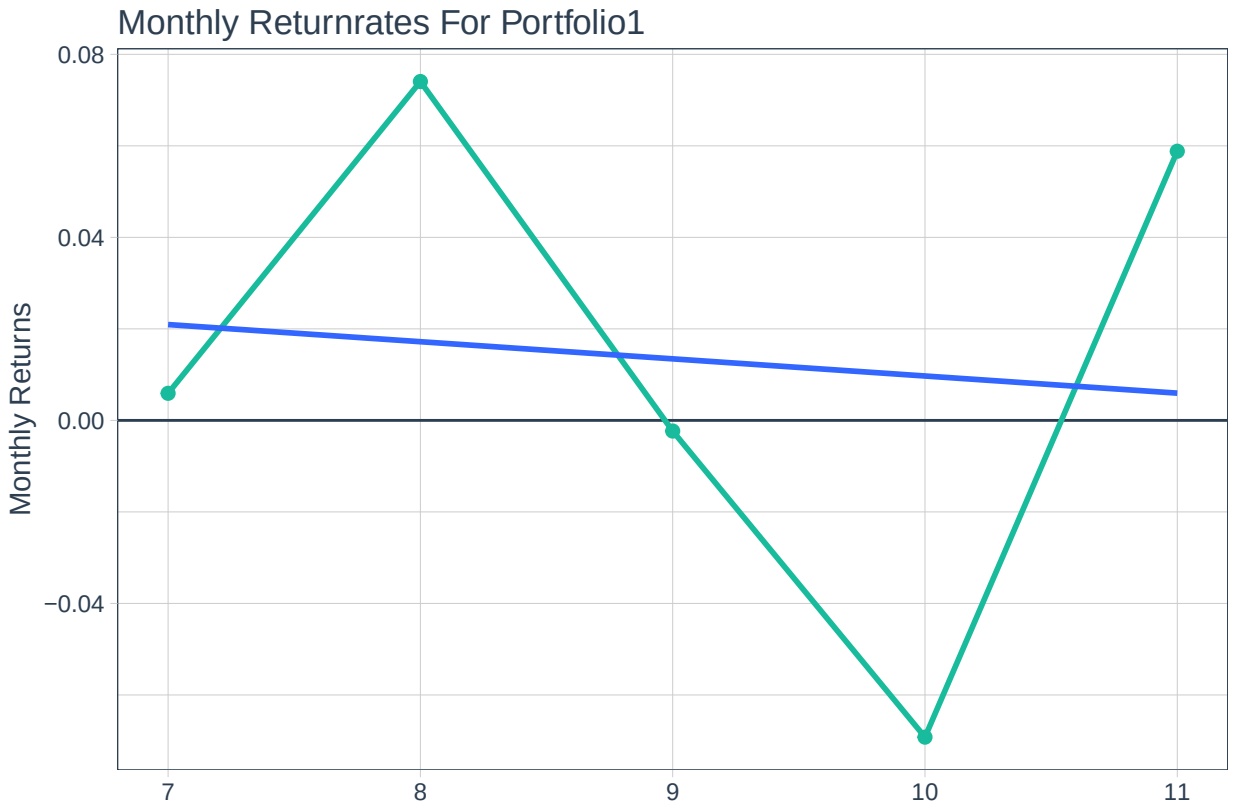
## The following object is masked from 'package:purrr':
##
##     set_names

## The following object is masked from 'package:tidyr':
##
##     extract
```

portfolio 1

Suggestion from: https://investorplace.com/2020/06/the-top-15-stocks-to-buy-in-2020/

```
## `geom_smooth()` using formula 'y ~ x'
```




```
##
## Call:
## lm(formula = returnrate1 ~ month, data = df1)
##
## Residuals:
##       1       2       3       4       5
## -0.01502  0.05686 -0.01578 -0.07892  0.05287
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.047166   0.187677   0.251    0.818
## month       -0.003746   0.020600  -0.182    0.867
##
## Residual standard error: 0.06514 on 3 degrees of freedom
## Multiple R-squared:  0.0109, Adjusted R-squared:  -0.3188
## F-statistic: 0.03307 on 1 and 3 DF,  p-value: 0.8673
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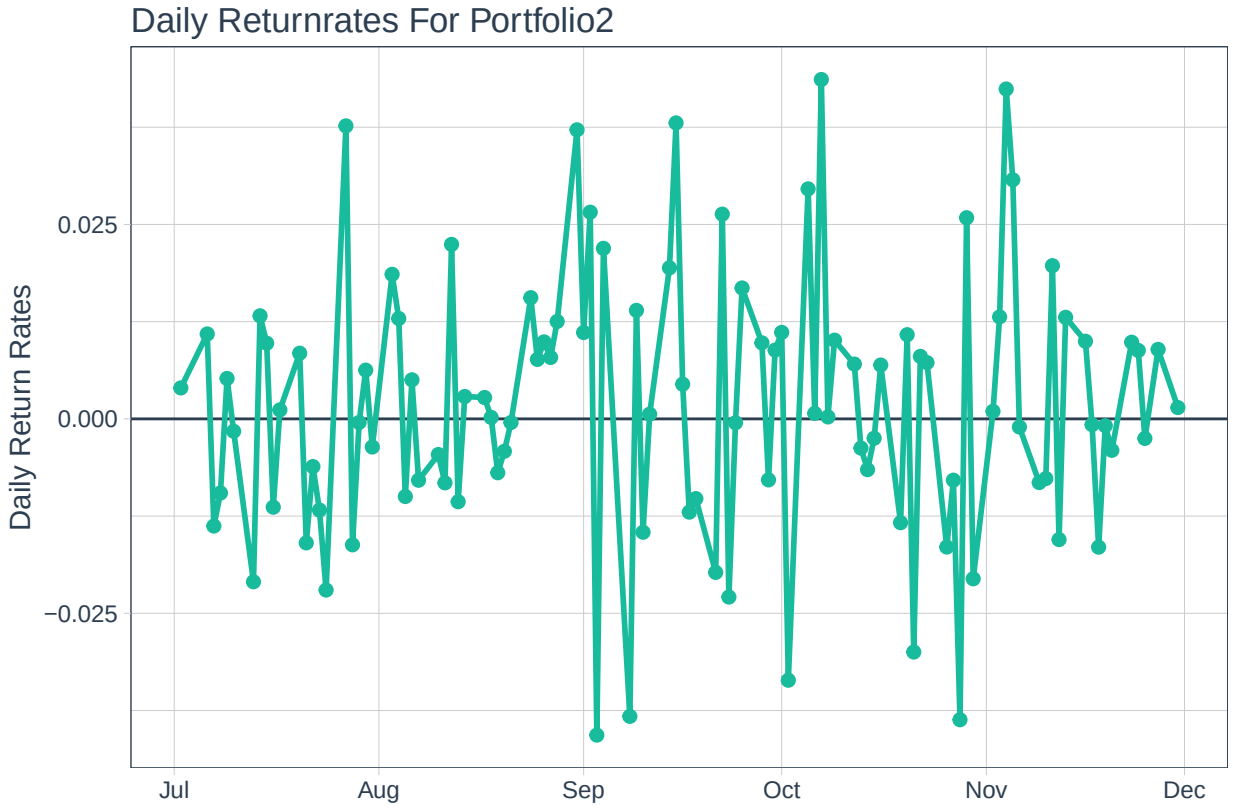
```
## [1] 265575.3
```

The final return of portfolio one on 12/1 is 265575.27798 dollars if we bought 20% for each stock on 7/1. The coefficient of the month is negative if we fitted the data in simple linear model. It shows that the return rate of the portfolio tends to decrease as month increases. But from the plot of the four month return rate, the total stocks experience a period of decreasing in September and October, it then bounces back in November.

portfolio 2

Suggestions from: https://www.fool.com/investing/2020/06/02/3-top-stocks-that-will-make-you-richer-in-june-and.aspx

```
## Warning in as.data.frame.Date(time, return_rate_perday): 'row.names' is not a
## character vector of length 105 -- omitting it. Will be an error!
```




```
## [1] 296324.4
```

The final return of the portfolio two on 12/1 is 296324.42362 dollars if we bought 50% each stock in the portfolio total as 250000 dollars on 7/1. Since most suggestions I found online do not clearly say the precentage, transaction time about the portfolio, I would like to make a shiny app to demonstrate the final return and return rate for different percentages.

Portfolio 3

https://www.fool.com/investing/2020/06/10/3-top-us-stocks-to-buy-in-june.aspx

```
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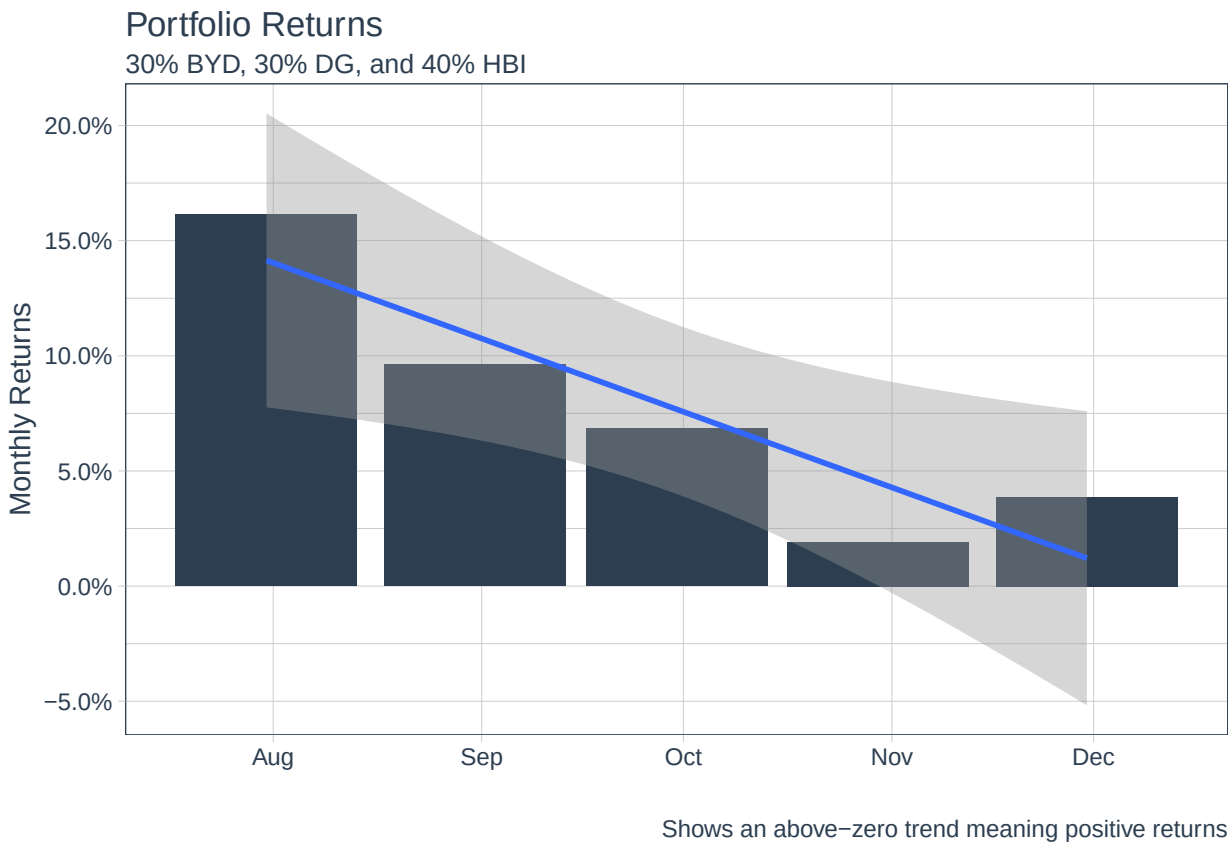
```




```
## [1] 359956.2
```

The final return of the portfolio three on 12/1 is 359956.2 dollars if we bought 30% Boyd Gaming, 30% Dollar General, 40% Hanesbrands total 250000 on 7/1. I choose S&P 500 as baseline. The Ra is the portfolio returns and Rb is the market returns. After doing the perform analysis, the beta of the portfolio is 0.2121 which is smaller than 1. That indicates that the stocks in portfolio as a whole move less than the market.