

Instructions for Running Equal Weighted Portfolios.Rmd

18.642

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1. R Markdown Program: *Script_SP500.Rmd*

This R markdown program has R code that:

- Collects daily time series data of prices for stocks currently in the S&P 500 stock index with start date of 1/1/2019 and end date of 8/31/2024.
- Saves R workspace SP500_data_all.RData with data for all stocks
- Saves R workspace SP500_data_subset.RData with data for stocks with no missing data for entire period.

2. R Markdown Program *Equal_Weighted_Portfolios.Rmd*

- Loads the R workspace SP500_data_subset.RData with data for stocks with no missing data for entire period.
- Creates equal weighted portfolios and plots investment returns.

3. Notes on using R Markdown Programs

3.1 General notes

- Sign in to RStudio Cloud
- Create copies of these R markdown programs in the workspace of RStudio Cloud.

Each of the R markdown programs can be opened in RStudio Cloud and executed to replicate the computations. When re-executing the code:

- A program opened in RStudio will display on the top-left panel.
- Execute line-by-line or chunk-by-chunk using the Run button in the program (top-left) window.
- Execute the program all at once by using the “Run all” option in the Run button.
- Create a pdf (or html) with all commands/output from running the program using the “Knit” button.

3.2 Data Collection Program

- Script_SP500.Rmd: R notebook that collects daily prices of stocks
 - Uses libraries: tidyverse, tidyquant, and broom
 - You may need to manually install these with `install.packages()`. You only need to install them once, the first time you use them.
 - You only need to run this program once to update the data. Programs can load the data files created without needing to recollect price data from Yahoo.

3.3 Program Analysing Equal-Weighted Portfolios

- Equal_Weighted_Portfolios.Rmd
 - Loads R workspace SP500_data_subset.RData
 - Analyzes equal-weighted portfolio of all stocks in subset
 - Analyzes equal-weighted portfolio of Apple, Amazon, Netflix and Google

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