Use the monthly data from 01-Jan-2014 to 01-Jan-2019 for the stocks you selected for project 1.

Answer the following questions:


b. Compute the values of $\lambda_1$ and $\lambda_2$ (the two Lagrange multipliers).

c. Suppose an investor has a prescribed expected return $E$. Find the composition of the efficient portfolio given the return $E$. Note: You need to choose a value of $E$.

d. Use your data to plot the frontier in the mean-variance space (parabola).

e. Use your data to plot the frontier in the mean-standard deviation space using the hyperbola method.

f. On the plot in (e) add the 30 stocks, the S&P500, the equal allocation portfolio, the minimum risk portfolio, and the portfolio in (c).

g. Add three arbitrary portfolios on the plot of (c). You can choose any 30 weights with $\sum_{i=1}^{30} x_i = 1$. 