

PROJECT----WEEK05

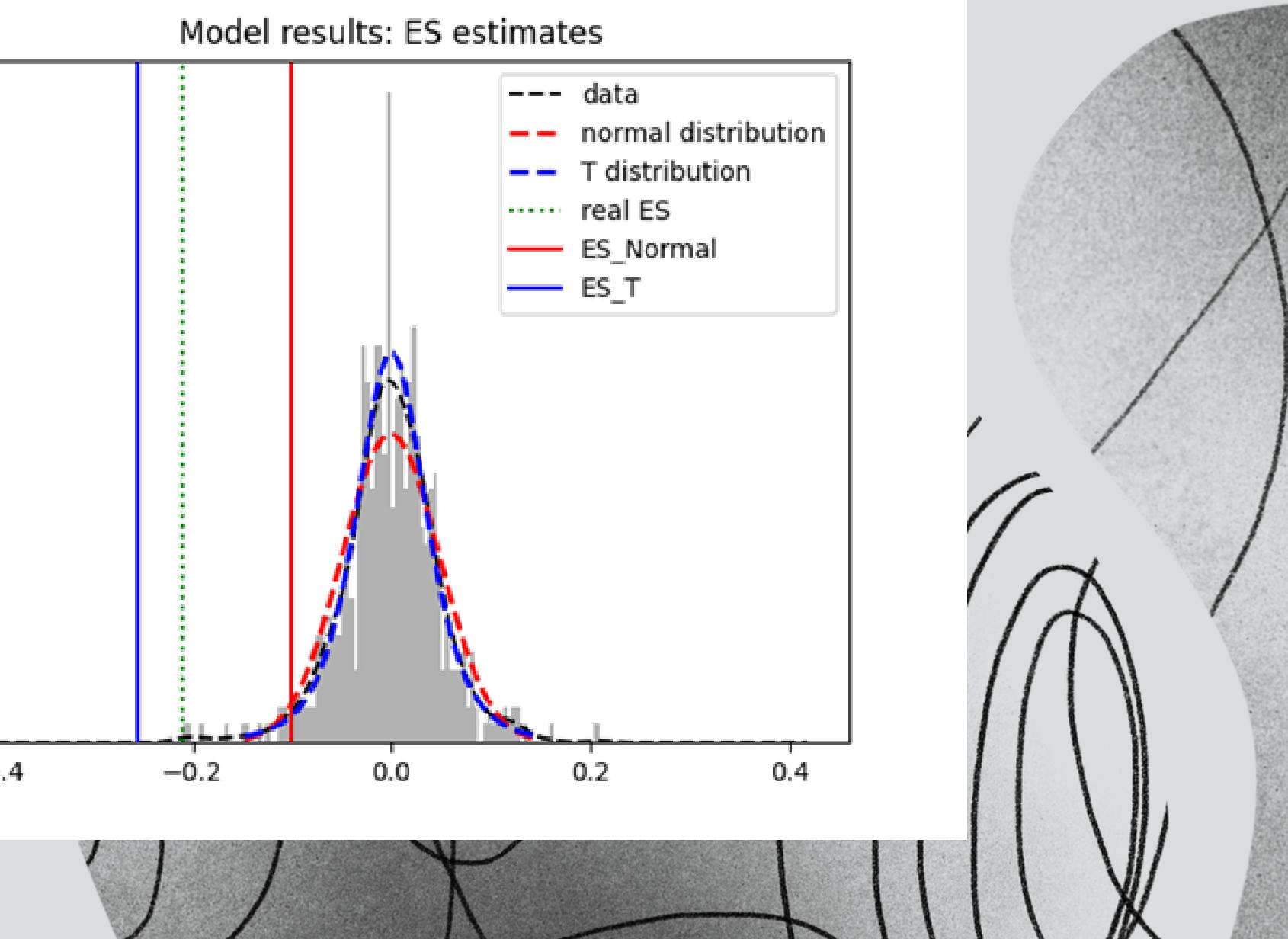
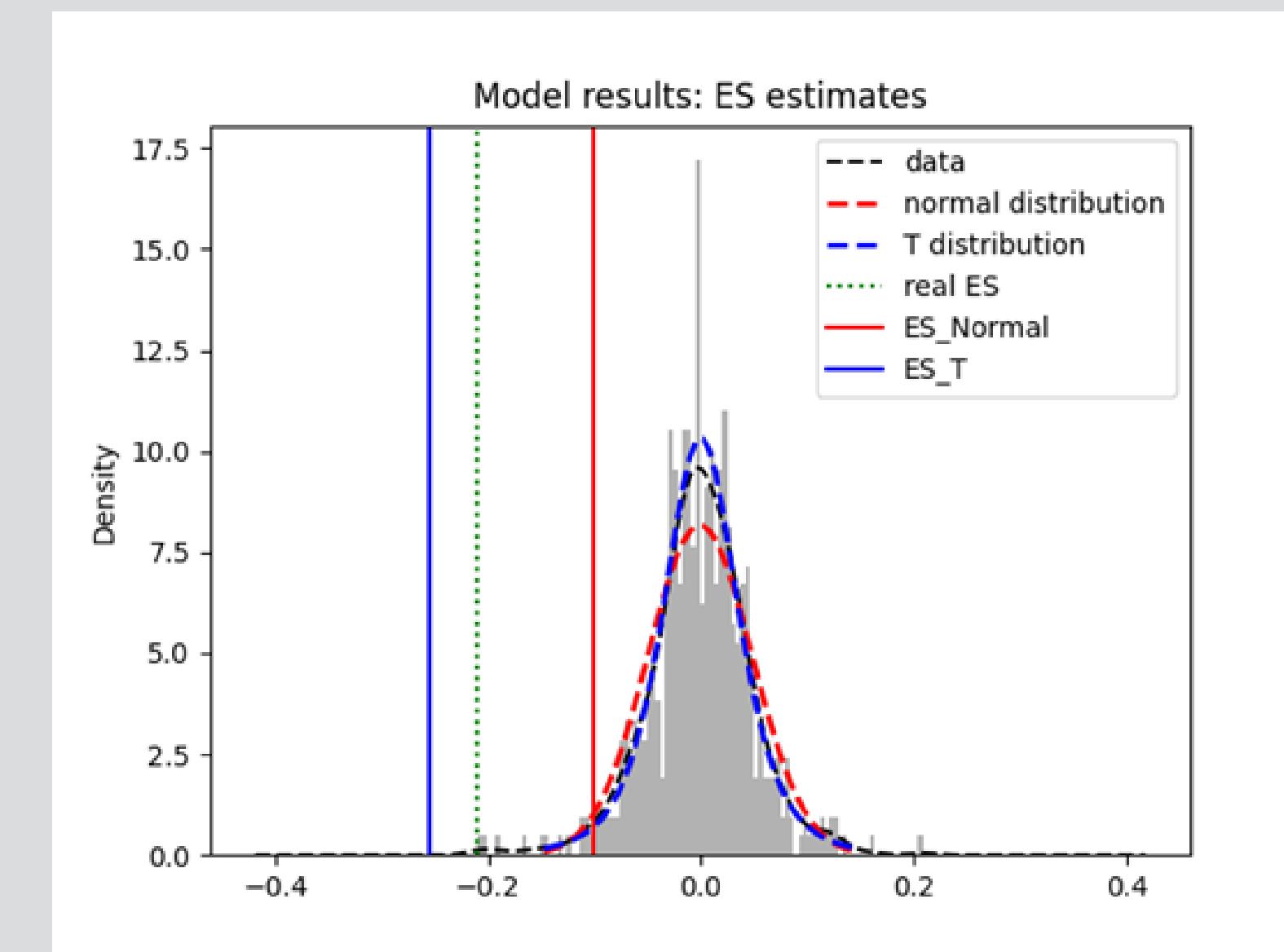
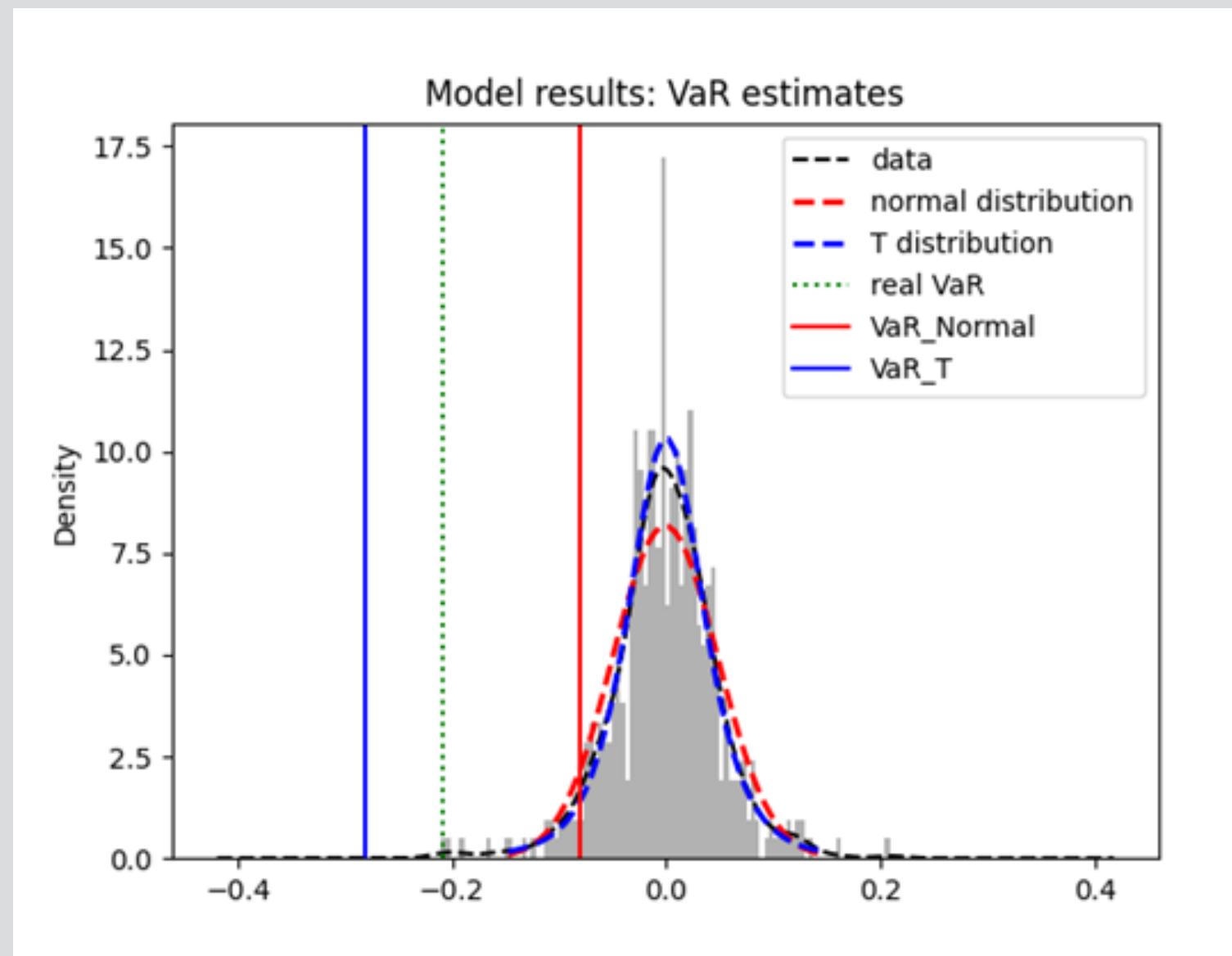
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Problem 1

Use the data in problem1.csv. Fit a Normal Distribution and a Generalized T distribution to this data.

Calculate the VaR and ES for both fitted distributions.

Overlay the graphs the distribution PDFs, VaR, and ES values. What do you notice? Explain the differences.

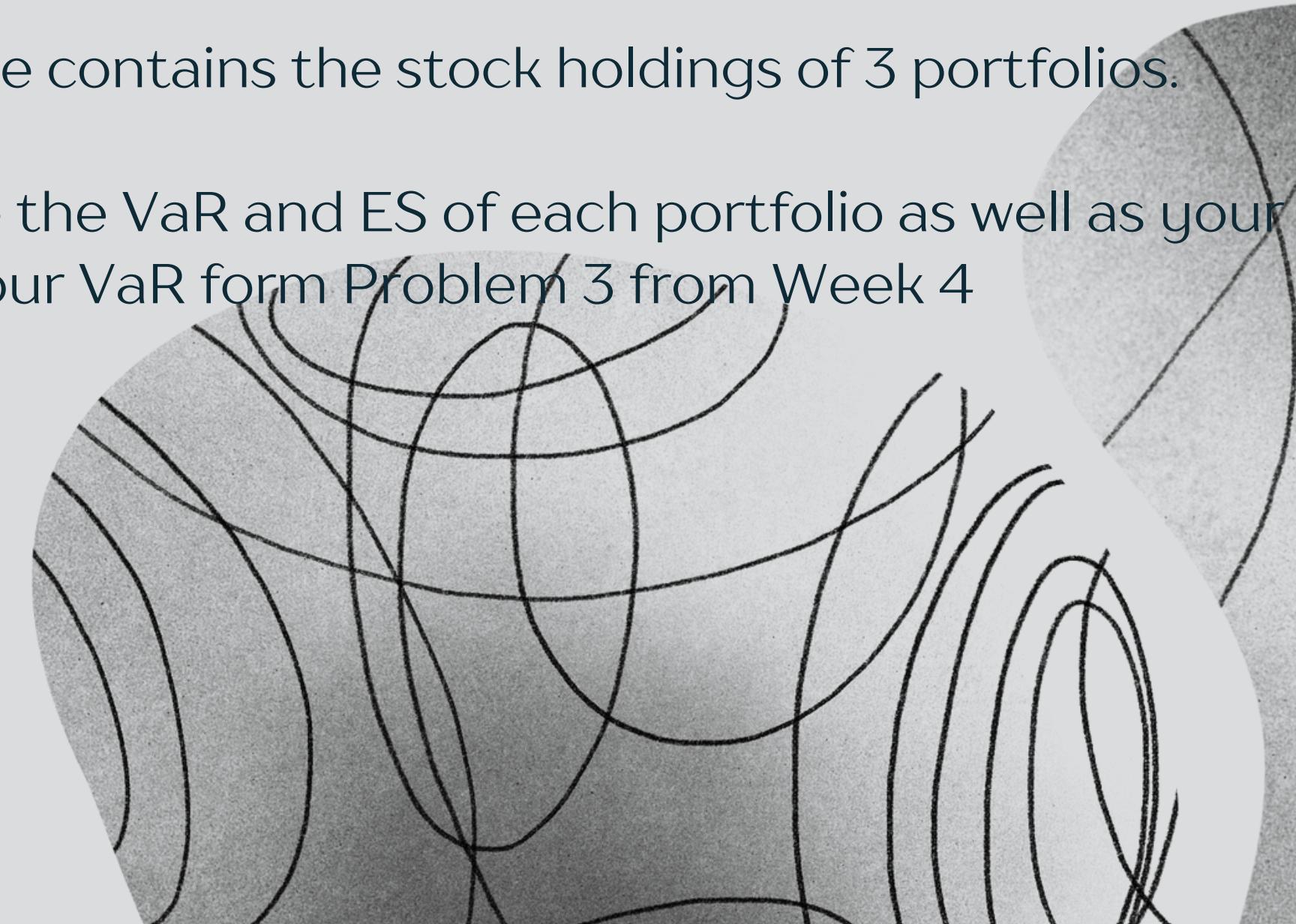


Problem 3

Use your repository from #2.
Using Portfolio.csv and DailyPrices.csv.

Assume the expected return on all stocks is 0. This file contains the stock holdings of 3 portfolios.
You own each of these portfolios.

Fit a Generalized T model to each stock and calculate the VaR and ES of each portfolio as well as your total VaR and ES. Compare the results from this to your VaR from Problem 3 from Week 4



----Portfolio 1----

VaR[Return] 1.65%

VaR[portfolio Value]: (a loss of) \$ 5853.61689664975

----Portfolio 2----

VaR[Return] 1.46%

VaR[portfolio Value]: (a loss of) \$ 4668.638078005463

----Portfolio 3----

VaR[Return] 1.10%

VaR[portfolio Value]: (a loss of) \$ 3300.227646298663

----Total----

VaR[Return] 1.38%

VaR[portfolio Value]: (a loss of) \$ 13469.51153658128

----Portfolio 1----

VaR[Return] -3.19%

VaR[portfolio Value]: (a loss of) \$ 11616.509224385087

ES[Return] -3.26%

ES[portfolio Value]: (a loss of) \$ 11900.470389949704

----Portfolio 2----

VaR[Return] -4.97%

VaR[portfolio Value]: (a loss of) \$ 16246.275351216203

ES[Return] -5.76%

ES[portfolio Value]: (a loss of) \$ 18834.30573633723

----Portfolio 3----

VaR[Return] -2.54%

VaR[portfolio Value]: (a loss of) \$ 8309.13712362581

ES[Return] -2.78%

ES[portfolio Value]: (a loss of) \$ 9090.50452408571

----Total----

VaR[Return] -3.30%

VaR[portfolio Value]: (a loss of) \$ 33551.49030077997

ES[Return] -3.68%

ES[portfolio Value]: (a loss of) \$ 37462.44857930807

From Week04

The background features a dark teal color with abstract white shapes. On the left, there is a large circle containing a complex network of black lines that intersect and form various shapes, resembling a spider's web or a circuit board. To its right is a smaller, irregular white shape. The overall composition is minimalist and modern.

THANKS FOR LISTENING