

1. Brief comment on $R(0)$ (or $C(0)$) compared to other values.

Ans: The stocks of maximum correlation at $\tau=0$, and which is expectedly more than value of $R(\tau)$ at $\tau \neq 0$. The same goes for $C(\tau)$ as well. Consequently we can say that today's return will not be correlated with future returns.

2. Brief comment on the spectrum.

Ans: The spectrum is almost constant around amplitude 0. As $R(\tau)$ is uncorrelated in time, it's power spectrum is uniformly spread across all allowed frequencies.

3. Is this stationary?

Ans: No. The mean is not steady for all quarters.

4. Brief comment on the plot.

Ans: Again, the most correlation between the stock prices of Amazon and Google can be seen at $\tau=0$.

Correlation Coefficient matrix:

```
[ [1.          0.2798896  0.60171602  0.36313128
0.17087933]
 [0.2798896  1.          0.37302515  0.44670316
0.39962422]
 [0.60171602  0.37302515  1.          0.42315848
0.23688477]
 [0.36313128  0.44670316  0.42315848  1.
0.341071  ]
 [0.17087933  0.39962422  0.23688477  0.341071
1.          ] ]
```

Companies with maximum correlation:

('AMZN' , 'GOOGL')

5. Which company stock is the top performer during 2015/16?

Ans: Amazon.