The problems of this assignment are from §2.4 R Lab and §2.5 Exercises of Ruppert and Matteson 2015 (attached).

2.4.1 Data Analysis

- Problems 1-2
- Do Problem 3 with R package "quantmod", see Handout 1.
  - Install and load the package.
  - Use `getSymbols()` to load the last 10 years of stock quotes of Microsoft and Merck, stock symbols are MSFT and MRK. Specify `from = "2009-08-01"` and `to = "2019-08-01"`.
  - Plot both adjusted closing price of Microsoft and Merck in one frame.
    ```
    >plot(cbind(Ad(MSFT),Ad(MRK)), legend.loc = "topleft")
    ```
  - Use `dailyReturn()` to compute both returns and log returns.
  - Repeat Problems 1 and 2 for Microsoft and Merck. Note that the data downloaded or computed using `quantmod` functions are of xtsclass (a type of time series). When plot scatter plots, it requires to convert a time series to a numerical vector with the Rfunction `as.vector()`.

2.4.2 Problem 4 only.

2.4.3 Problems 9-11. The codes will produce 9 plots (3×3), these plots will be very difficult to see with the default size of R Markdown. Please change the size by setting the height at the beginning,

```
'''{r, fig.height=8}
```

Also, plot the line plots, set `type = "l"` instead of `"b"` for both.

2.4.4 Problems 12-15, 17.

2.5 Exercises Questions 1 and 4. All computation should be done in `R`.