

## ADS1 exercises – Visualisation and repository

1. Create a github account ([www.github.com](http://www.github.com)). Create a repository and upload your code(s) from time to time.
2. Attached are files with annual share price data for four companies traded on the London Stock Exchange. Annual returns are the relative change of the share prices over the year in percent. The stocks are Barclays (BCS), BP, Tesco (TSCO) and Vodaphone (VOD) all part of the FTSE100 index of the 100 largest listed companies.
  - (a) Produce normalised histograms of the returns. Arrange them as subplots. To save space do not use titles, but use labels to display the company names.
  - (b) Pick two stocks and create a combined histogram of both. Use transparency to make both histograms fully visible.
  - (c) Produce a boxplot of the return distributions of the four companies with names of the companies as labels.

Save your figures as PNG files.

3. The table shows the market capitalisation of the four companies. Market capitalisation is the value of a company and is calculated by multiplying the number of shares with the share price.

Company	Market capitalisation Mill. £
Barclays	33 367
BP	68 785
Tesco	20 979
Vodaphone	29 741

- (a) Produce a pie chart for the four companies.
- (b) Create a pie chart showing the market capitalisation as a fraction of the total market cap of the FTSE100: 1 814 000 Mill. £.
- (c) Create a bar plot of the market capitalisations.