**Python/Numpy basics**

Download Iris Dataset from [here](https://archive.ics.uci.edu/ml/datasets/iris). Read the description of the dataset. Then use python to find some pattern in the data.

1. Read the dataset. Now you can discard the fourth dimension.
2. Plot the data points using the first three dimensions (Sepal Length, Sepal Width, Petal Length) in 3d plots . Use three different shapes (triangle, square, circle) to plot data points for three different classes. You should use the class information from class label and use them when you decide on shapes. For shape you need only the class information.
3. Calculate the mean data point for each class and show them with similar shape with the larger size. For shape you need only the class information.
4. Plot histogram for each of the two dimensions (Sepal Length, Sepal Width). One plot for each dimension.
5. Calculate standard deviation (sigma) for each of the two dimensions (Sepal Length, Sepal Width). You can use library function to calculate standard deviation.
6. Draw two separate box plot for all data points for two dimensions (Sepal Length, Sepal Width). X axis have dimensions such as sepal length or sepal width, petal length. The Y axis will have the box plots. (See slide 7, lecture 1)
7. Now, draw box plots for each class separately. In each figure you have three boxes for each two dimensions (Sepal Length, Sepal Width). but data will be from a particular class.
8. Make matrix plots for the entire dataset for 2 dimensions (see slide 21, lecture 1). So The whole figure will have 2x2 scatter matrices.
9. Draw parallel coordinates for the entire dataset for two dimensions (Sepal Length, Sepal Width). You will have 2 equidistant axes that are parallel. Show the axes units and axes names. Visually observe the mean and std for each dimension and match with your previous calculation.