**Feature Extraction Workshop**

1. In this workshop, we shall perform Feature Extraction using PCA.
2. Please use the dataset ***wine.csv*** for the questions that follow.
3. Plot the distributions, differentiated by ‘Cultivar’, for the following features:

* Alaclinity of ash
* Flavanoids
* Hue
* Proline

1. Perform feature-scaling on the dataset.
2. Plot the distributions, differentiated by ‘Cultivar’, for the following features after feature-scaling:

* Alaclinity of ash
* Flavanoids
* Hue
* Proline

1. Generate 4 new set of features using PCA.
2. Print out the amount of variance captured for each Principal Component.
3. Print out the total amount of variance captured for the 4 Principal Components.
4. Print out the minimim number of Principal Components required to capture at least 85% of the information of the dataset
5. What is the maximum number of Principal Components that can be generated from our dataset?