1. Implement Principal Component Analysis Algorithm and use it to reduce dimensions of Iris Dataset.

   Consider the following instructions -

   (a) Plot the magnitude of eigenvalues in sorted order.

   (b) Plot the reconstructed data points along with the class labels using 1 and 2 PCs for reconstruction.

   (c) Classify the dimension reduced dataset using bayes classifier.

2. Implement Linear Discriminant Analysis Algorithm and use it to reduce dimensions of Iris Dataset.

   Consider the following instructions -

   (a) Plot the transformed dataset along with the corresponding class labels.

   (b) Use bayes classifier for classification and compare results with that of PCA.

Note 1

You can load the iris dataset using the code below
from sklearn import datasets
iris = datasets.load_iris()