SRM University – AP, Amaravati

Introduction to Machine Learning
Lab 09: Principal Component Analysis

1. Consider the two dimensional data matrix [(2, 1), (3, 4), (5, 0), (7, 6), (9, 2)]. Implement principal component analysis. Use this to obtain the feature in transformed 2D feature space. Plot the scatter plot of data points in both the original as well as transformed domain.

2. Implement Principal Component Analysis Algorithm and use it to reduce dimensions of Iris Dataset (from 4D to 2D). Plot the scatter plot for samples in the transformed domain with different colour codes for samples belonging to different classes.

Note: Develop the code without using library function 'PCA'. Import linalg module from numpy to compute the eigen values and corresponding eigen vectors.