Principal Component Analysis

1. Download the mammography dataset given. Implement PCA. Find the first two principal components of the dataset and plot it using scatter plot with different colors for each target. Dataset is obtained from https://www.openml.org/d/310
What are your interpretations?

2. Download the image "bird.png". Apply PCA and find the optimal number of components required to compress it to reconstruct the original image with less errors. Plot following graph.

   Graph with 'x' axis to be number of PCs and 'y' axis to be the reconstruction error.

   References :
   https://shankarmsy.github.io/posts/pca-sklearn.html
   https://www.kaggle.com/selfishgene/visualizing-pca-with-leaf-dataset