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Machine Learning Lab – 8
Report

To find PCA we do the following steps:

1. Subtract the mean of the data from data itself to obtain zero mean data
2. Find the covariance of the data
3. Find eigenvector and eigenvalue of the covariance matrix
4. Sort the eigenvectors according to the corresponding eigenvalues
5. Choose the n max eigenvectors corresponding to eigenvalues and multiply with the mean adjusted data

For PC1 vs PC2 for the first 4 components we consider the final features after PCA. We pick the columns corresponding to maximum 4 eigenvectors. We make a scatter plot out of it.

We find the proportional variance by dividing the eigenvalue with sum of the eigenvalues. The cumulative variance is found by doing cumulative sum on the proportional variance.

Output: