READ ME FILE- Pushkar Deodhar (015266914)

Note:
We used the code from the below link and modified it to plot the AUC-ROC curves.
https://datascience.stackexchange.com/questions/69442/plotting-roc-auc-for-svm-algorithm
For PCA we referred this site:
https://github.com/MazinOnsa/SPEAKER-ACCENT-RECOGNITION/blob/main/SAR-MFCC.ipynb

1. **File name:Final_Project_with_test_CrossValidation_test10.ipynb**
   This file has the main model for the project. It uses the data set modeled by the observations from PCA and cross-validation with data split ratio of 0.1

2. **File name: Final_Project_with_test_0.33_without_PCA.ipynb**
   In this notebook, we have used original (using all features) dataset for all classifiers and also with X1 and X2 dropped for only SVM and KNN classifiers. The test to train data is split with 0.33 ratio.

3. **File name: Final_Project_with_test_0.33_PCA.ipynb**
   In this notebook, we have used PCA (eliminated X4, X5 and X6) dataset for all classifiers and also with X1 and X2 dropped for only SVM and KNN classifiers. The test to train data is split with 0.33 ratio.

4. **File name: Final_Project_with_test_0.10_PCA_used.ipynb**
   In this notebook, we have used PCA (eliminated X4, X5 and X6) dataset for all classifiers and The test to train data is split with 0.1 ratio.

5. **File name: Final_Project_testdata_0.20_without_PCA.ipynb**
   In this notebook, we have used original (using all features) dataset for all classifiers. The test to train data is split with 0.2 ratio.

6. **File name: Final_Project_normal_0.10_PCA_implmentation.ipynb**
   In this notebook, we have used original (using all features) dataset for all classifiers. The test to train data is split with 0.1 ratio and implemented PCA for feature extraction.

7. **File name: Final_Project_after_removing_x8_x9.ipynb**
   In this notebook, we have used manual approach to eliminate X8 and X9 (as they have most of the outliers dataset) for all classifiers and The test to train data is split with 0.1 ratio.

8. **File name: Final_Project_after_removing_all_outliers**
   In this notebook, we have used manual approach to remove all outliers for all classifiers and The test to train data is split with 0.1 ratio. We also implemented the same for 0.2 ratio only for KNN and SVM classifiers.