TINONS1 EXERCISES WEEK 1

Exercise 1 :

Experiment with the linear classifier using “intro.m”. Try on the dataset “classification_2D_dataset_large”.

Train the classifier on a training set, test it on a test set and find classification error/accuracy and confusion matrix for both train and test set.

Experiment with the number of training samples used - does it affect the performance ?

Try to add a few outliers to the dataset. Does it change the classification train/test errors ? Does it change the decision boundary ?

Find the distances from the decision boundary to the individual samples - this could be used to remove outliers (samples which are believed not to belong to any of the classes - eg. corrupted data). Plot a histogram of the distances for visualisation.

Exercise 2 :

Apply the linear classifier on your own case - using “intro.m” as template.
Do similarly to exercise 1.