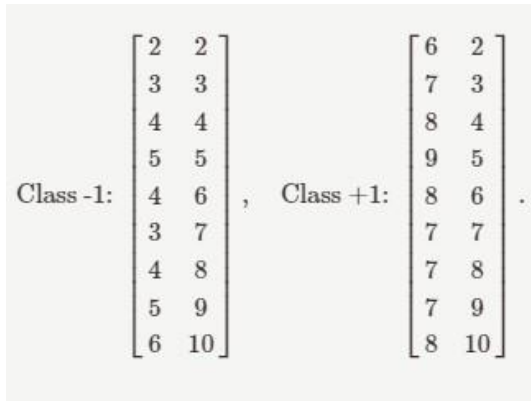


IMPLEMENTATION AND ANALYSIS OF SVM TASKS

1. Given the binary Classification Problem



- a) Sketch and find the mean values and the decision boundary you would get with a Gaussian classifier with covariance matrix $\Sigma = \sigma^2 I$, where I is the identity matrix.
- b) What is the error rate of the Gaussian classifier on the training data set?
- c) Sketch on the plot the decision boundary you would get using a SVM with linear kernel and a high cost of misclassifying training data. Indicate the support vectors and the decision boundary on the plot.
- d) What is the error rate of the linear SVM on the training data set?
- e) Change kernel to a RBF (Radial Basis Function) and find the error rate.