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Ex2 report

Knn

k=3
At first I tried k=7 because we have 240 samples and I saw that the best way to choose k for knn is k = sqrt(N)/2 , I got 91% success but I tried to change the k and see the effect on the success rate so I choose k=3 and I got 93% which is better.
Other numbers that I tried didn't help to Improve the success rate.

Perceptron

learning rate = 0.2
Because I saw that for value > 0.2 the steps are too big and the loss function wasn't decreasing.

Epochs = 20
Because I saw that this is the best number for the algorithm training, when I tried less then 20 the algorithm didn't learned and when I tried more then 20 I got wrong results.

Svm

learning rate = 0.001
Because when I tried bigger number the steps were too big and the loss function wasn't decreasing, and for value < 0.001 the steps were too small and there wasn't change in values I got from the loss function.

Lambda = 0.2
I started with lambda = 2 and I got wrong classify for 0,1,2 and every time I tried to decrease the lambda value and I got better results so I kept doing it until I saw that there is no more improvement.

Epochs = 30
Because I saw that this is the best number for the algorithm training, when I tried less then 30 the algorithm didn't learned and when I tried more then 30 I got wrong results.

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