Homework 6

November 30, 2021

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Q1

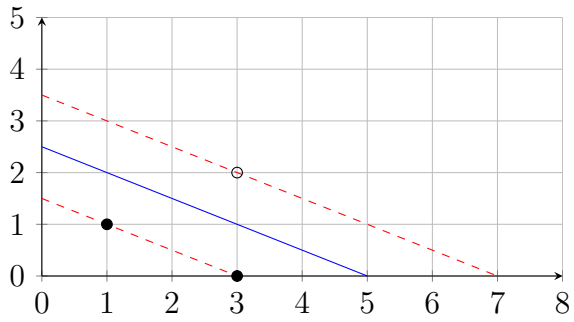

Figure 1: Support Vector with Margin

For this data set the hyper plane is is written as $f(x) = \beta_0 + \beta^T X$. Where β_0 is the bias and β is the weight vector.

the supporting vectors have data points that hold the positions of the suport vector.The points (1,1), (3,0),(3,2) are in this area that produces the largest minimum distance to the training data

Q2

1)

There is no real maximum amount of points. But there needs to be an amount of points that are not in the Data set. So the maximum would be the size of the dimension of R

2)

Regardless of the dimension and amount of data points,the minimum amount of support vectors is 2.