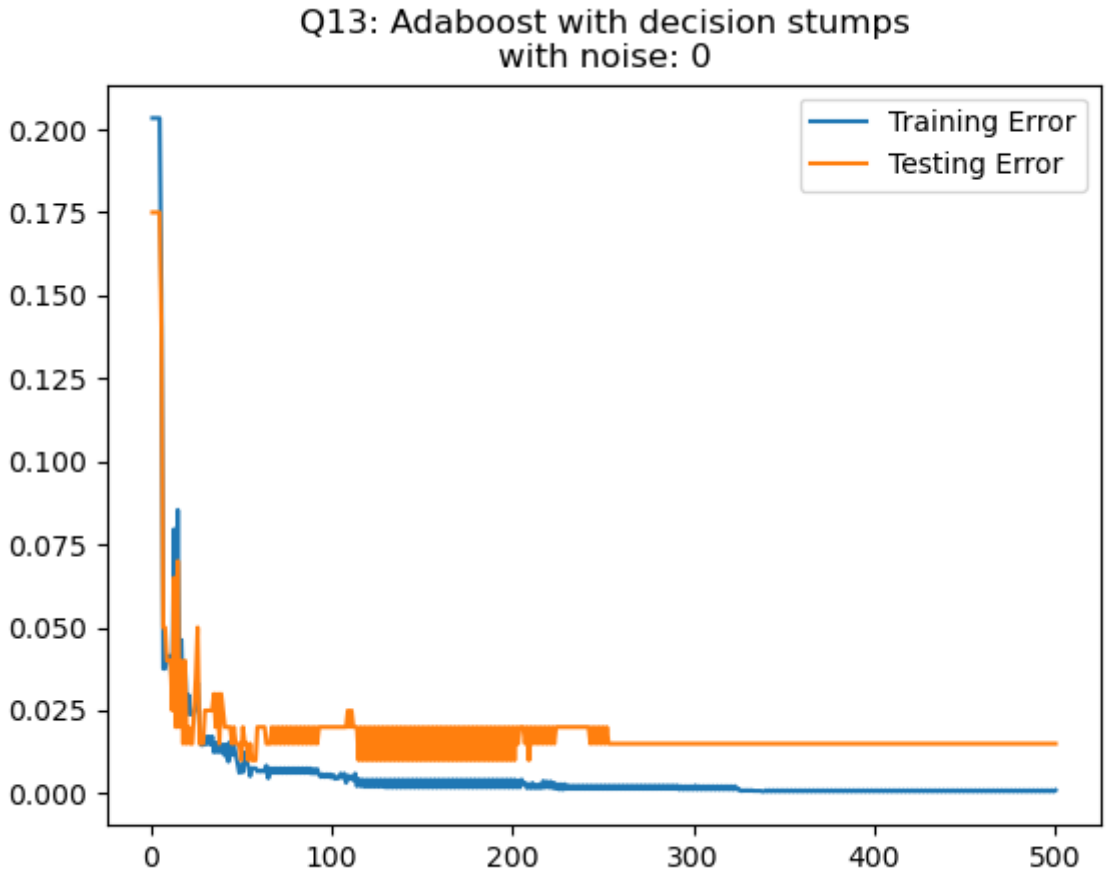
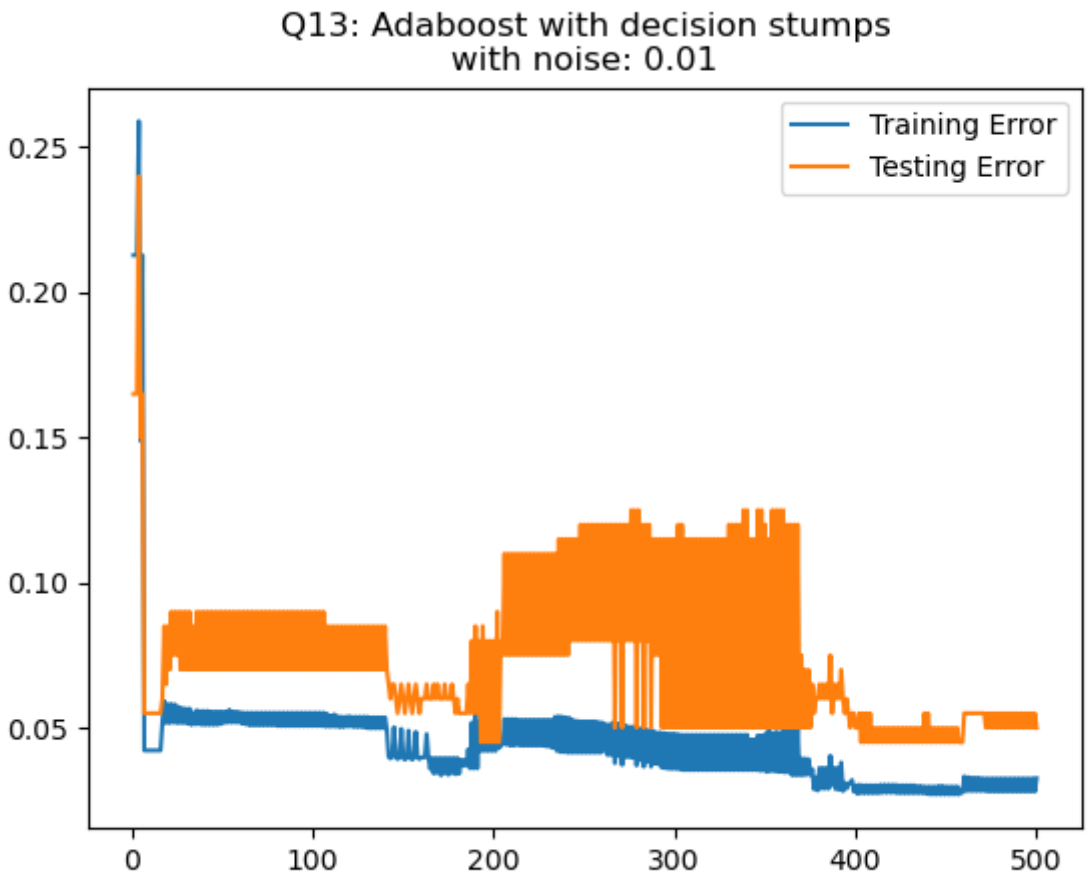
Code questions:

Q13

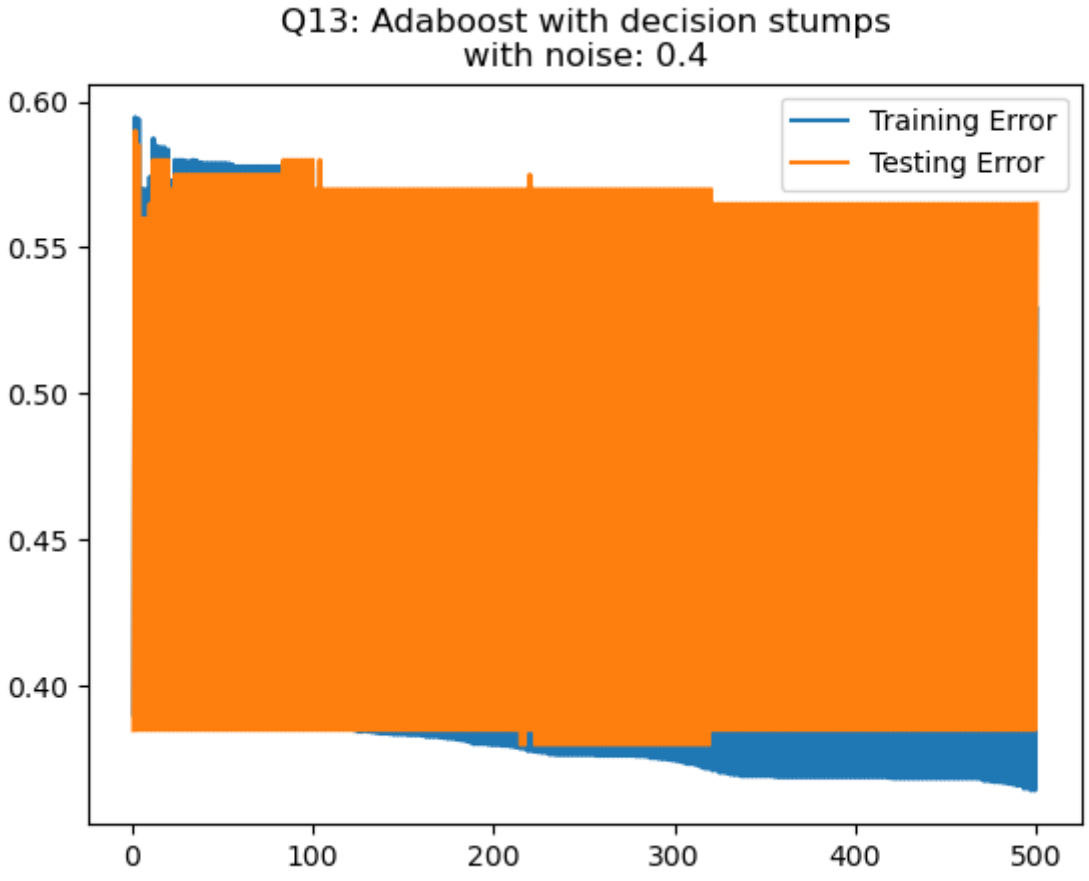
noise=0



noise= 0.01

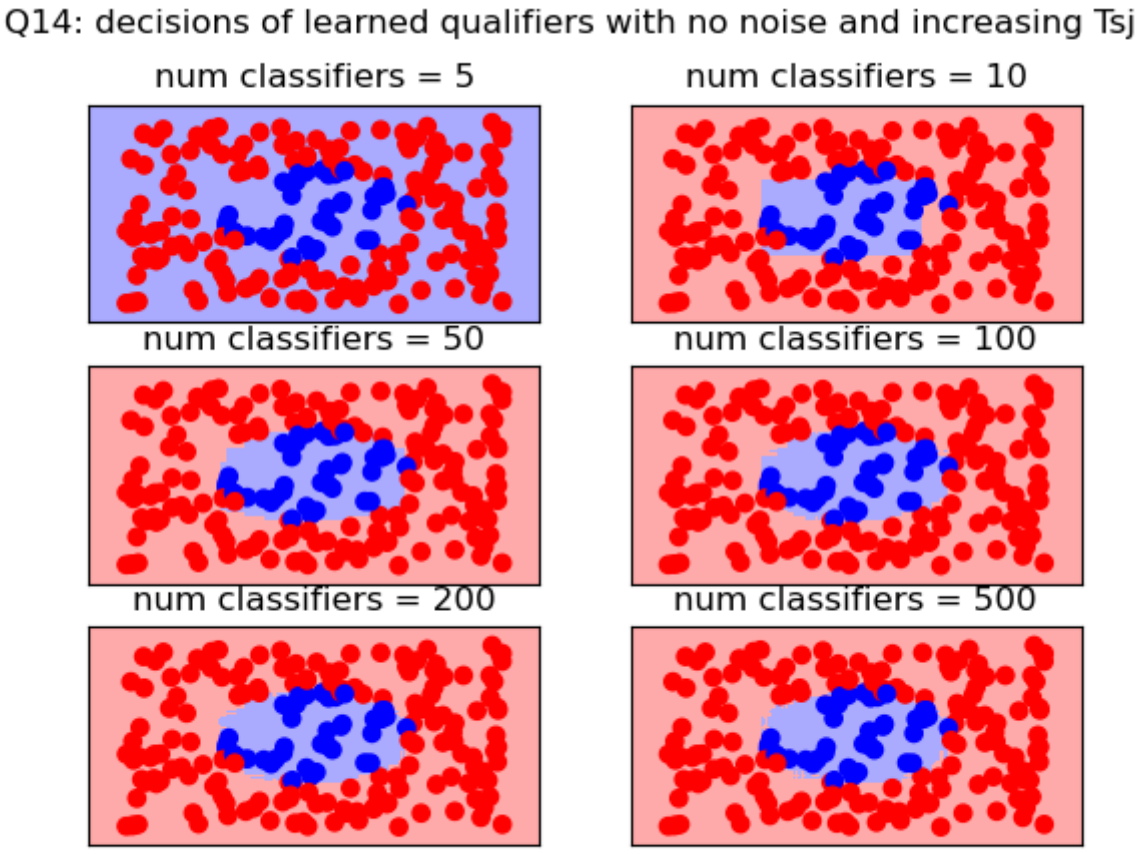

Q13: Adaboost with decision stumps
with noise: 0.01
Training Error
Testing Error
0.25
0.20
0.15
0.10
0.05
0
100
200
300
400
500

noise=0.4


Q13: Adaboost with decision stumps
with noise: 0.4
Training Error
Testing Error
0.60
0.55
0.50
0.45
0.40
0
100
200
300
400
500

Q14

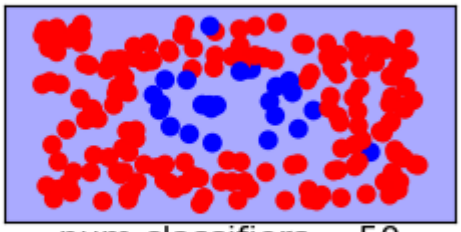
noise=0



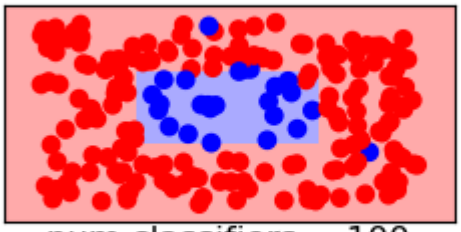
noise= 0.01

Q14: decisions of learned qualifiers with noise: 0.01, and increasing Ts

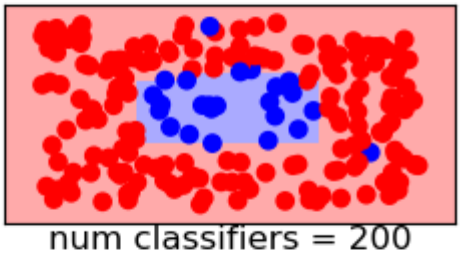
num classifiers = 5



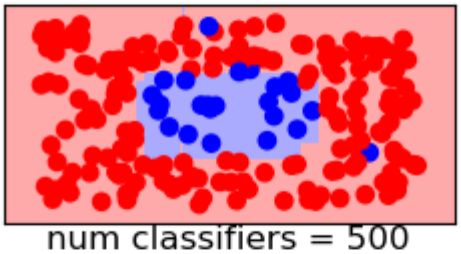
num classifiers = 10



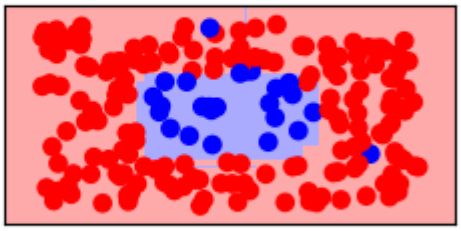
num classifiers = 50



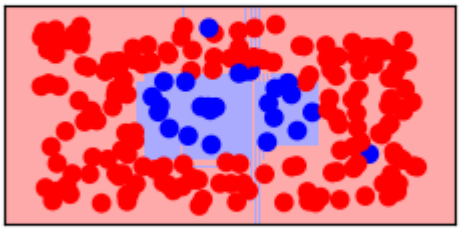
num classifiers = 100



num classifiers = 200



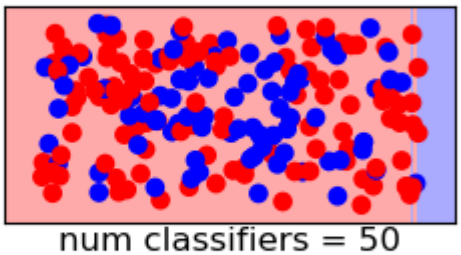
num classifiers = 500



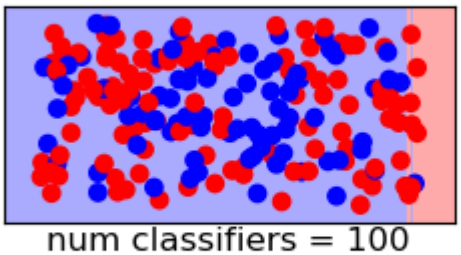
noise=0.4

Q14: decisions of learned qualifiers with noise: 0.4, and increasing Ts

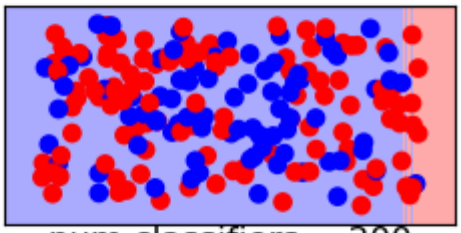
num classifiers = 5



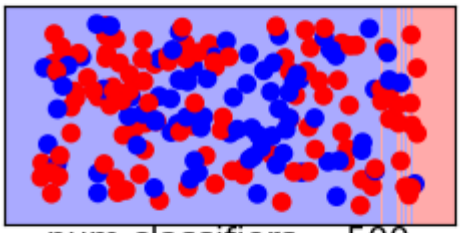
num classifiers = 10



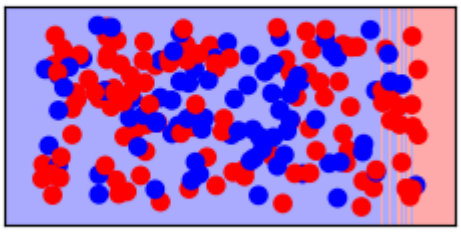
num classifiers = 50



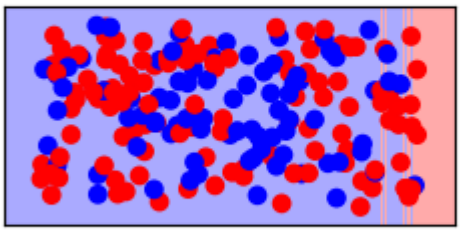
num classifiers = 100



num classifiers = 200

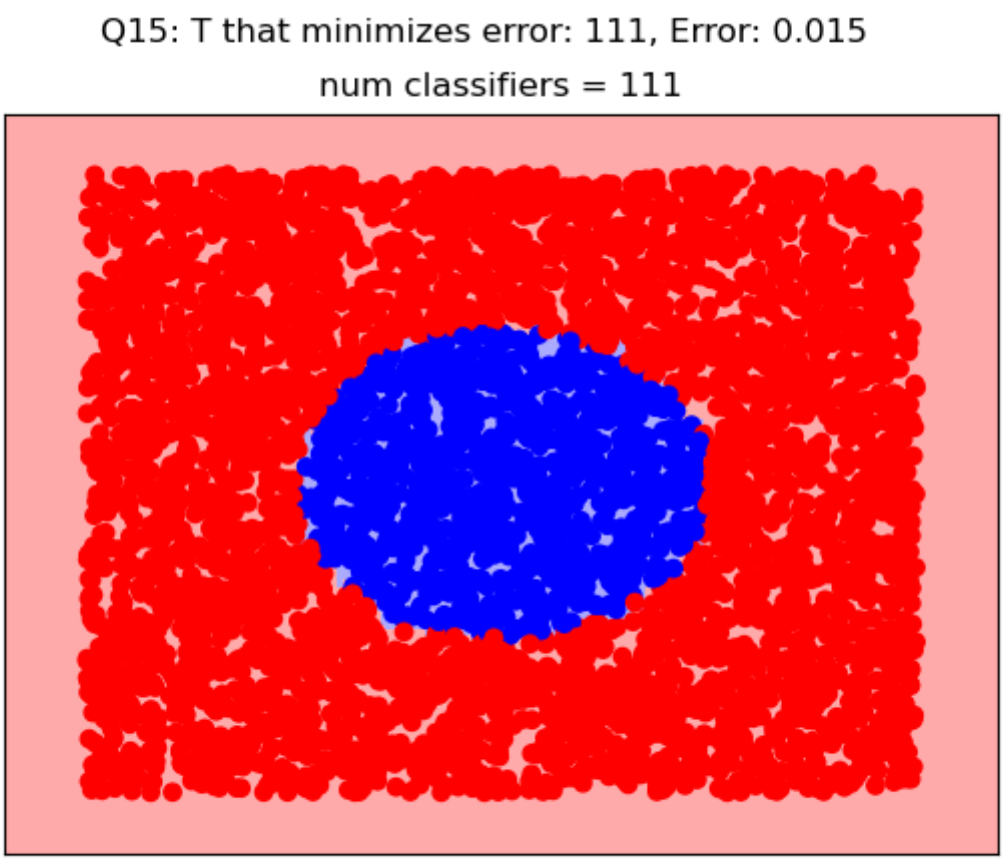


num classifiers = 500

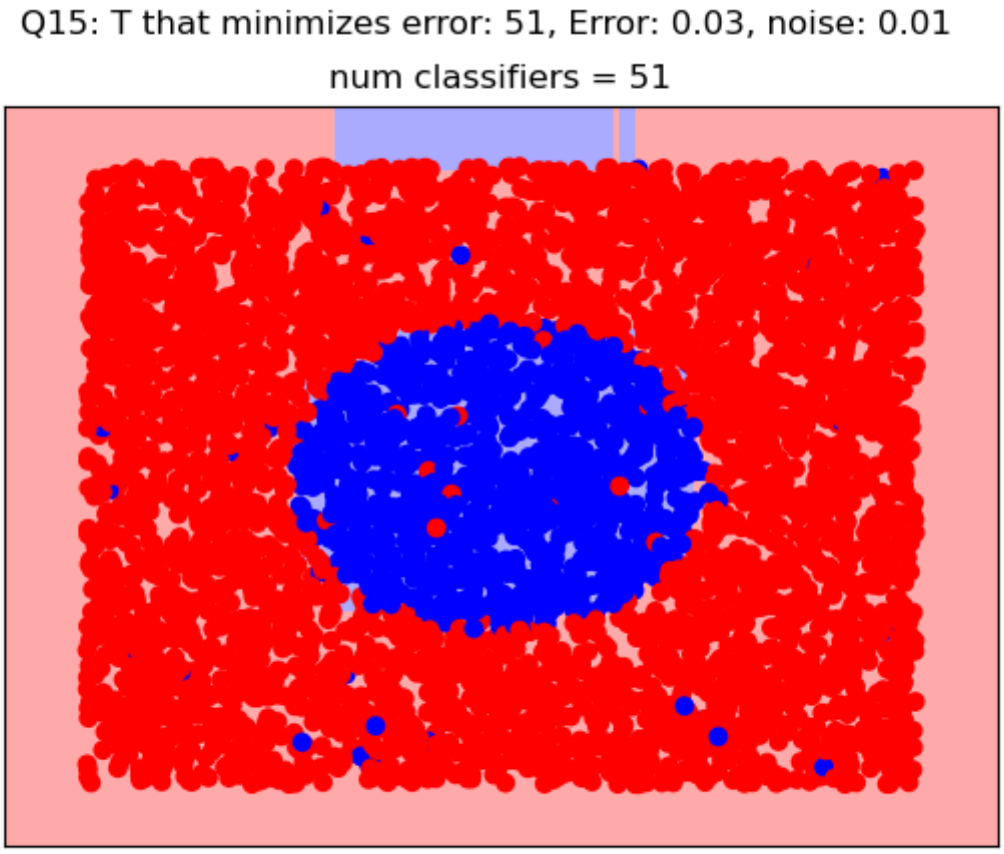


Q15

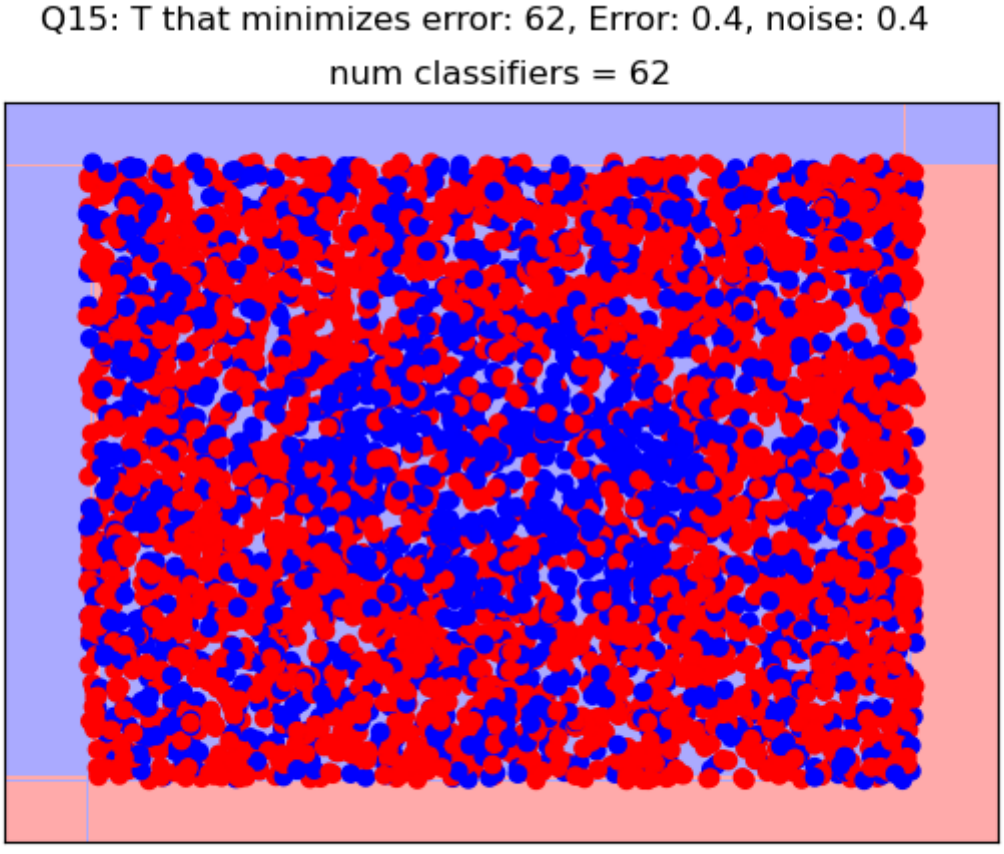
noise=0



noise= 0.01

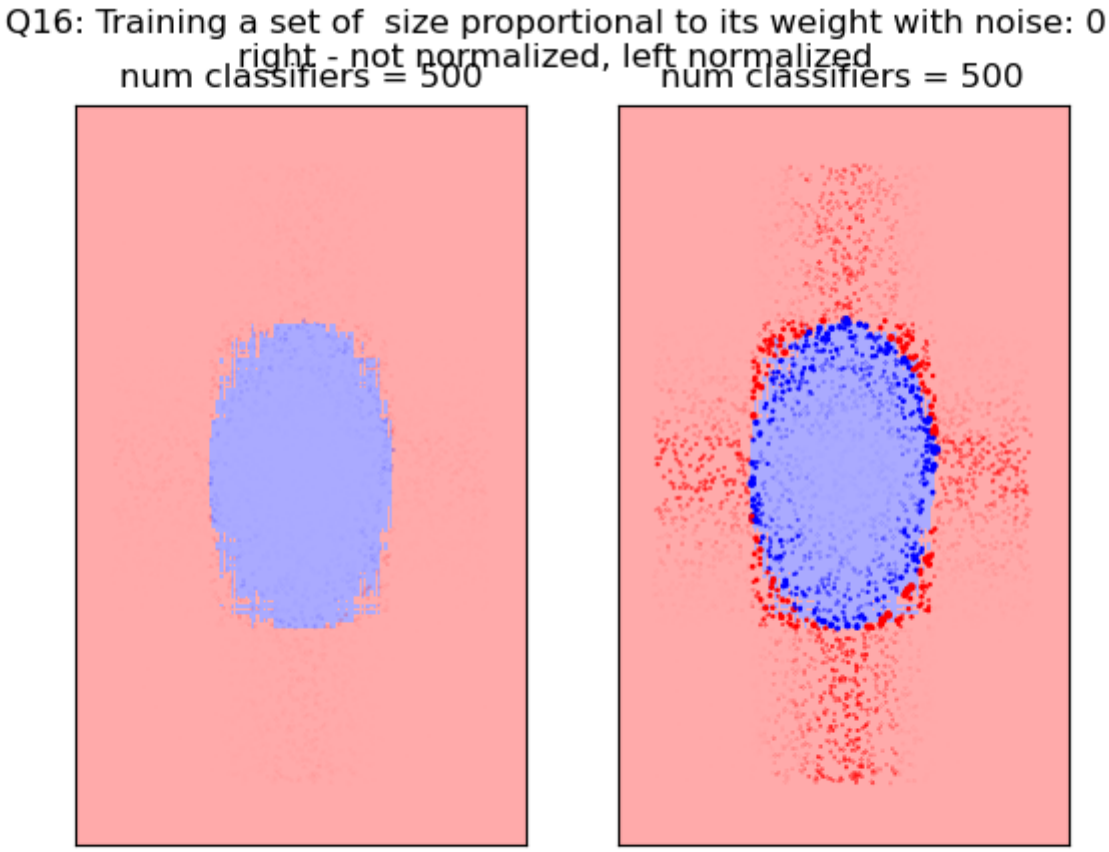

Q15: T that minimizes error: 51, Error: 0.03, noise: 0.01
num classifiers = 51

noise=0.4


Q15: T that minimizes error: 62, Error: 0.4, noise: 0.4
num classifiers = 62

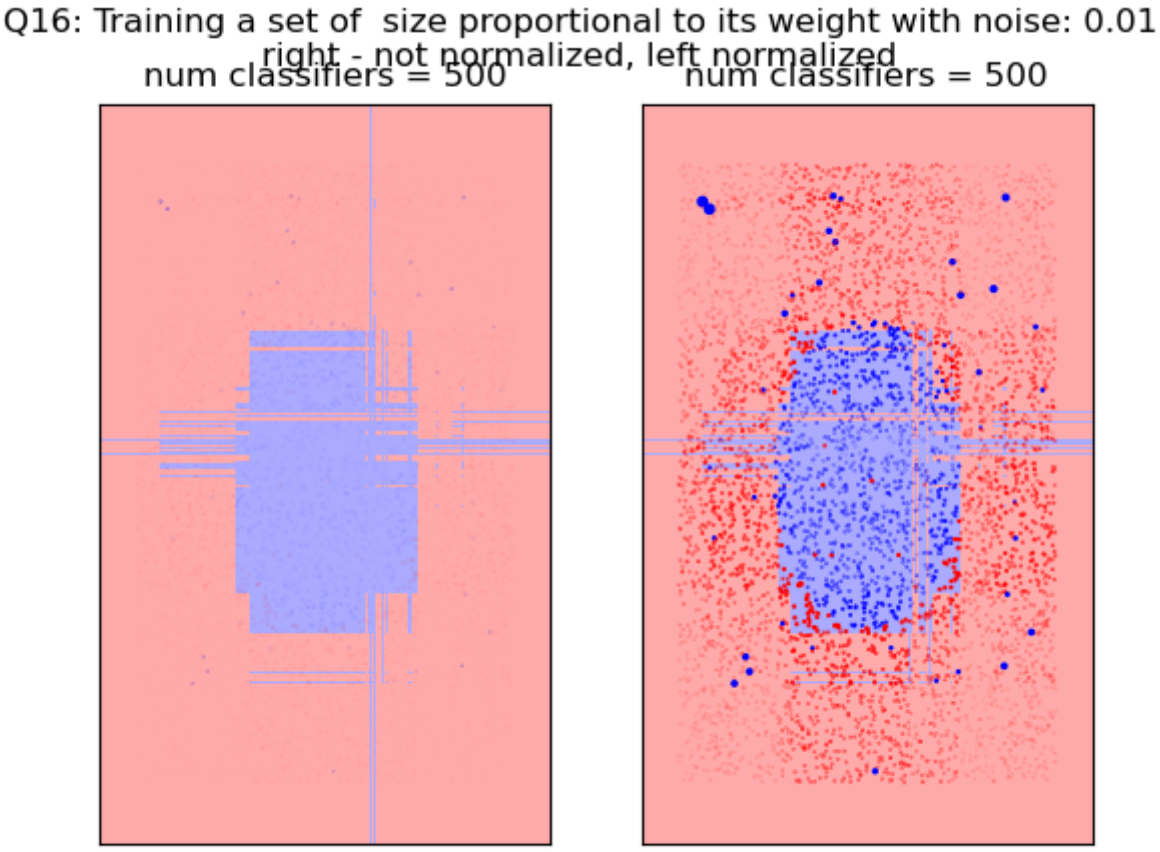
Q16

noise=0

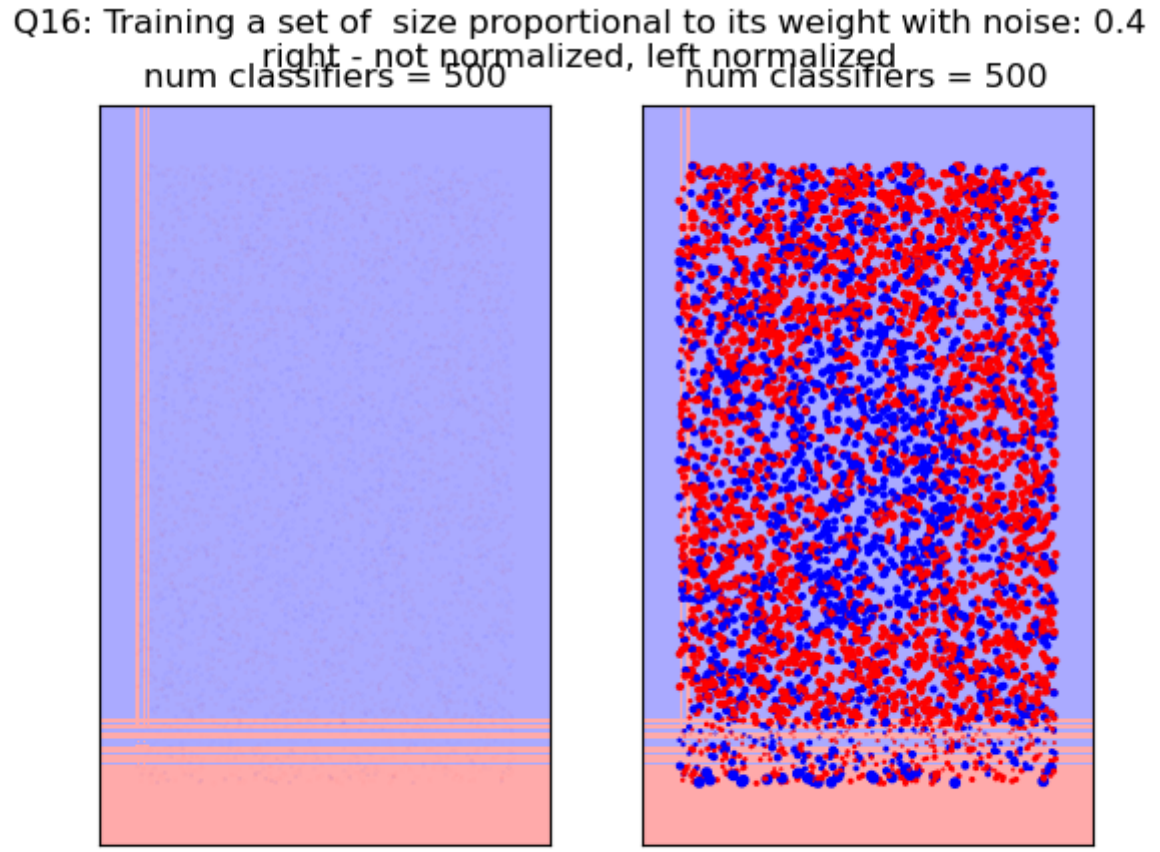


We can see that the points that have greater influence on the outcome in terms of weight, are those that are close to the boundary. This means that it is harder to classify them.

noise= 0.01


Q16: Training a set of size proportional to its weight with noise: 0.01
right - not normalized, left normalized
num classifiers = 500
num classifiers = 500

noise=0.4


Q16: Training a set of size proportional to its weight with noise: 0.4
right - not normalized, left normalized
num classifiers = 500
num classifiers = 500