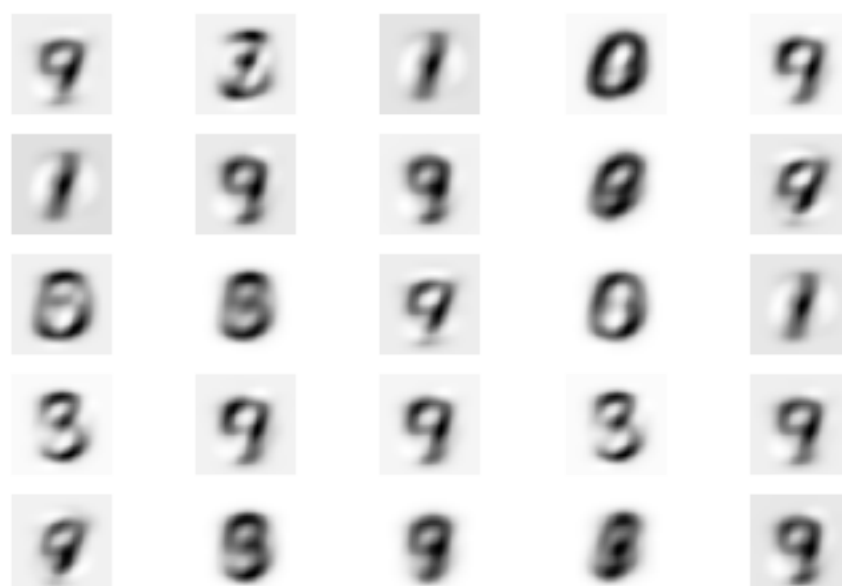


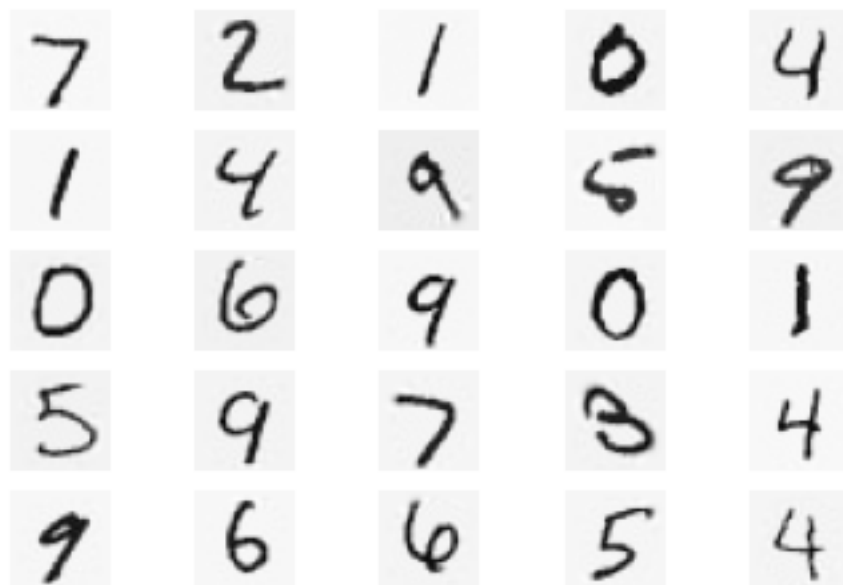
Question 1(a): MNIST test data projected onto 30 dimensions



Question 1(b): MNIST test data projected onto 3 dimensions



Question 1(c): MNIST test data projected onto 300 dimensions



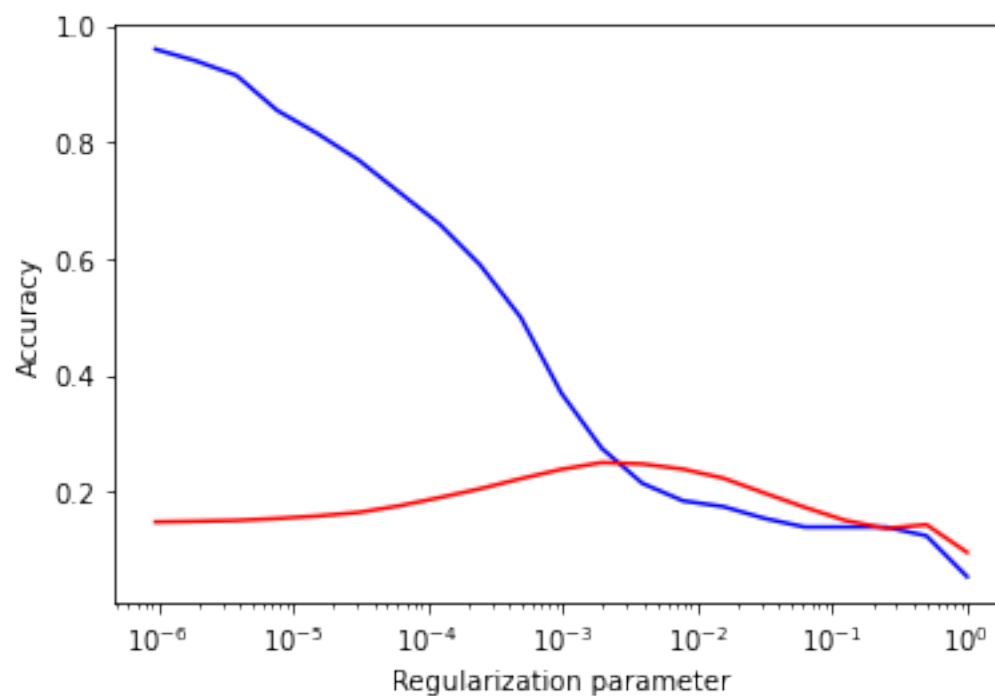
Question 1(f): MNIST data projected onto 100 dimensions (mine)



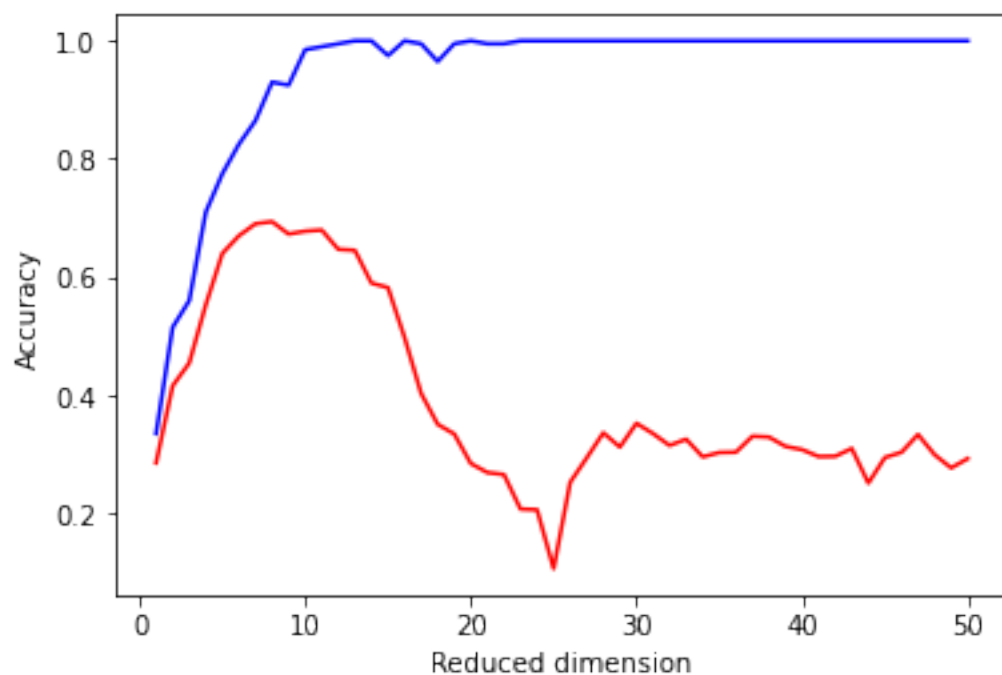
Question 1(f): MNIST data projected onto 100 dimensions (sklearn)



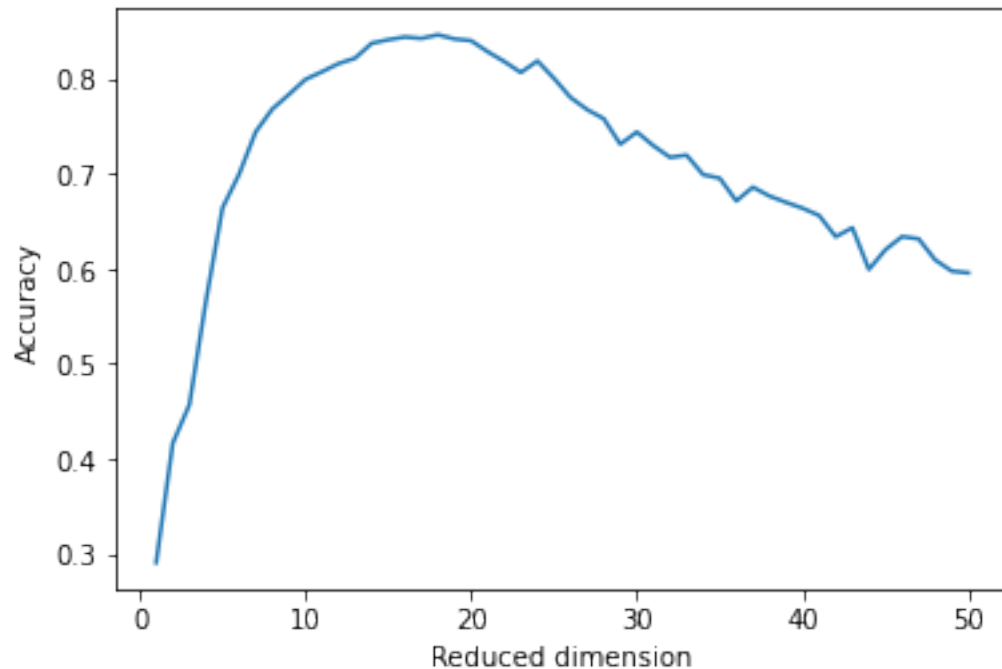
Question 2(b): Training and Validation Accuracy for Regularized QDA



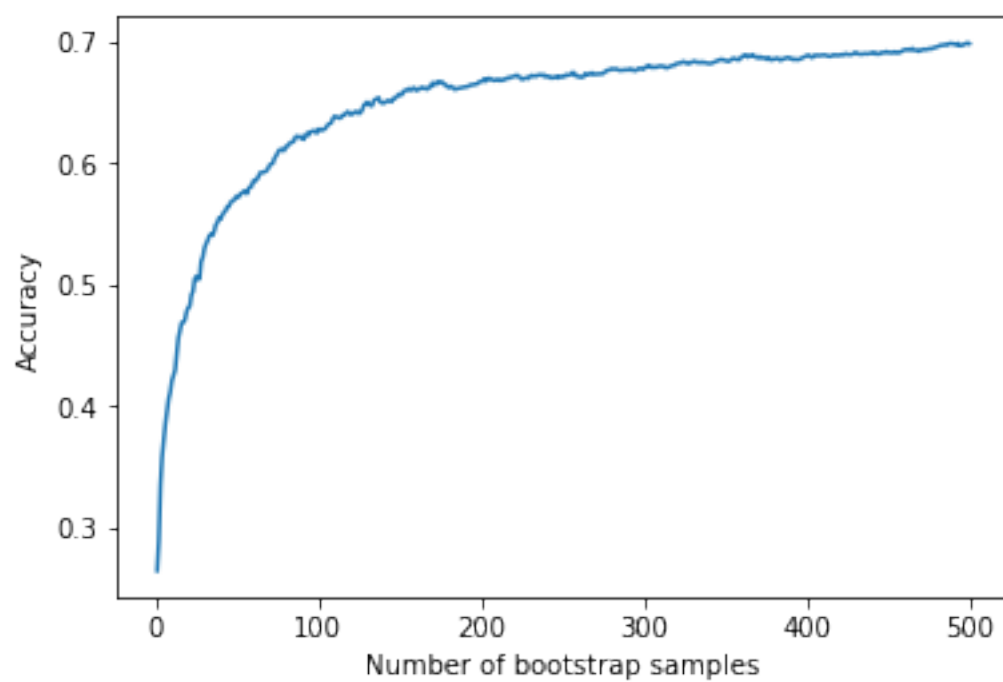
Question 2(d): Training and Validation Accuracy for PCA + QDA



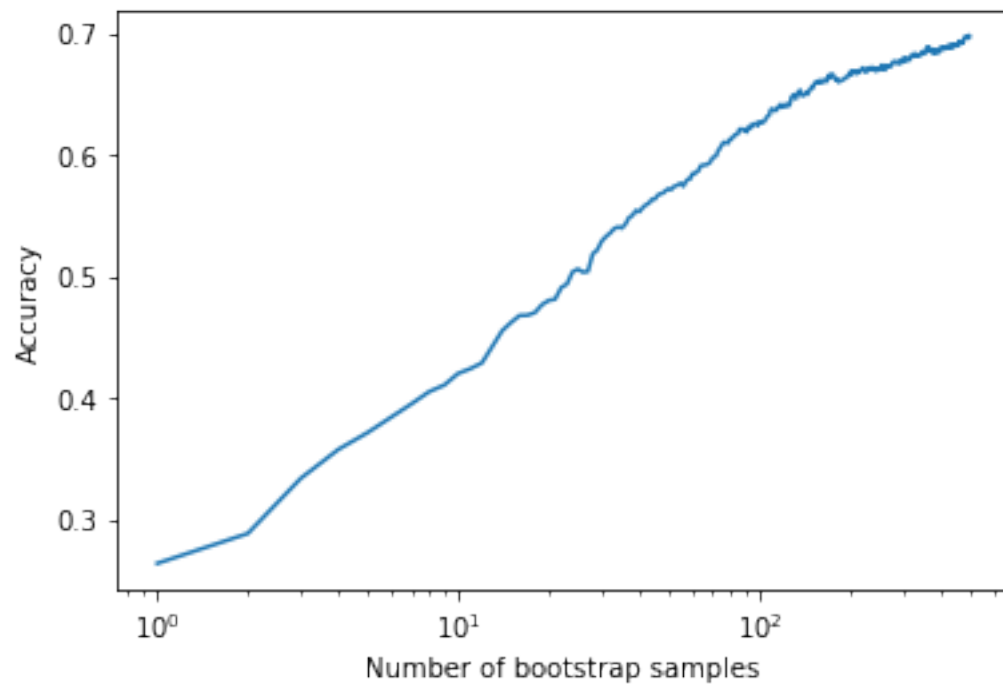
Question 2(f): Maximum validation accuracy for QDA



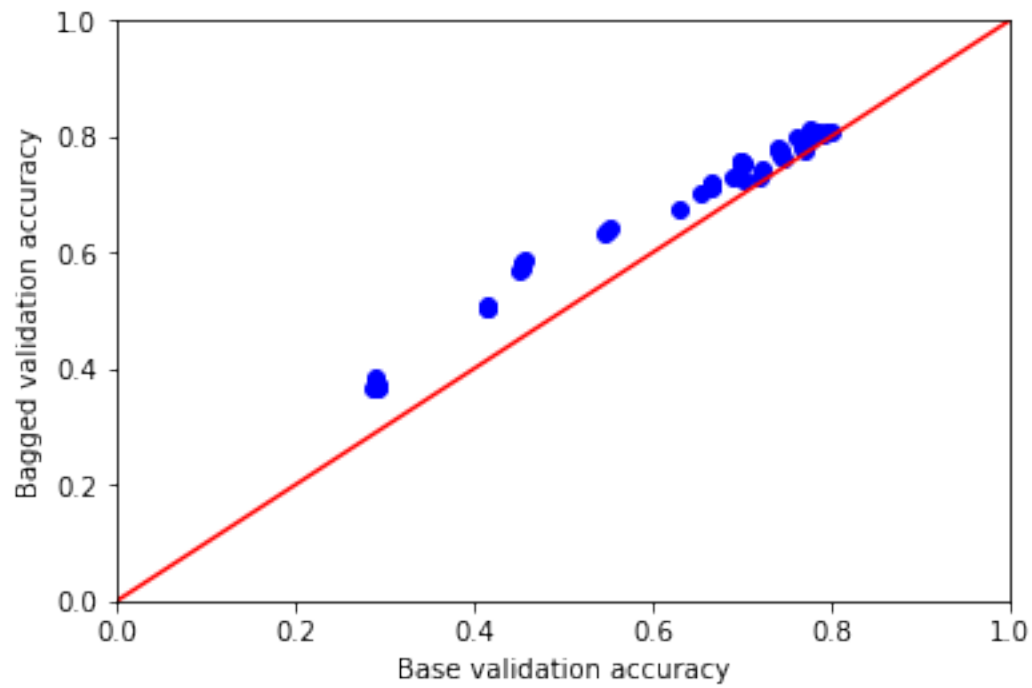
Question 3(c): Validation accuracy



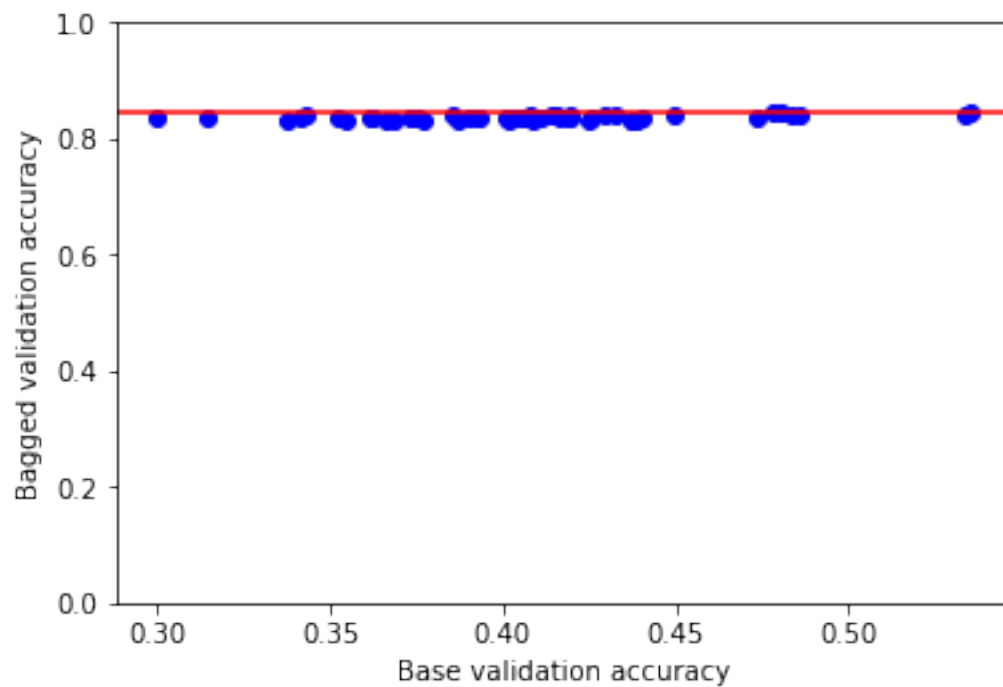
Question 3(c): Validation accuracy (log scale),



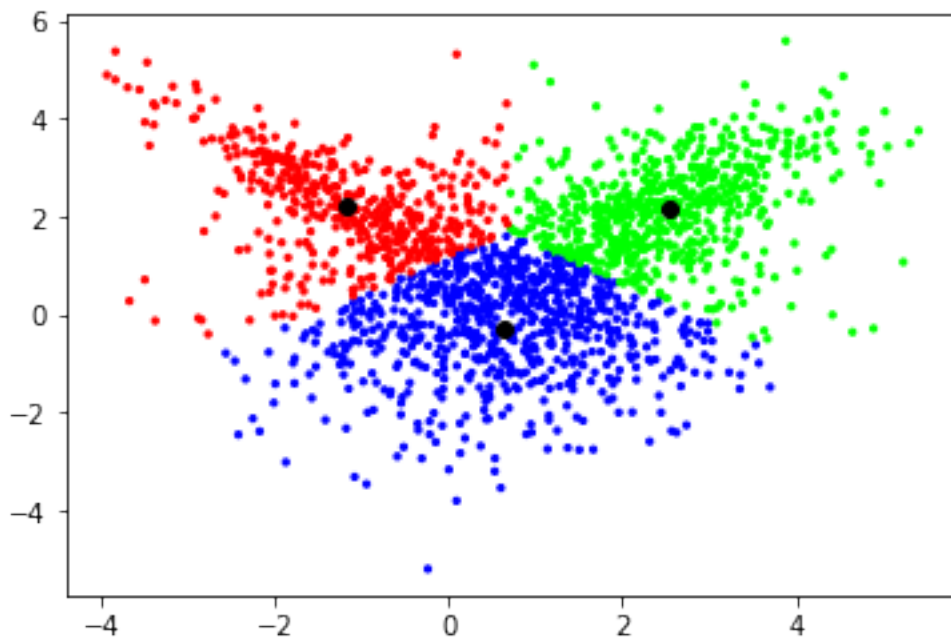
Question 3(g): Bagged v.s. base validation accuracy



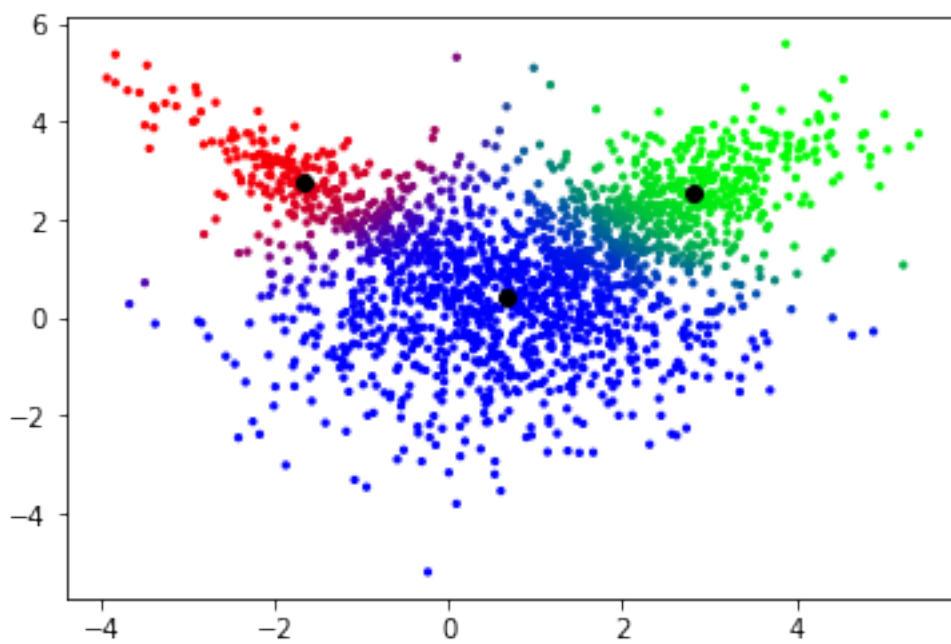
Question 3(h): Bagged v.s. base validation accuracy



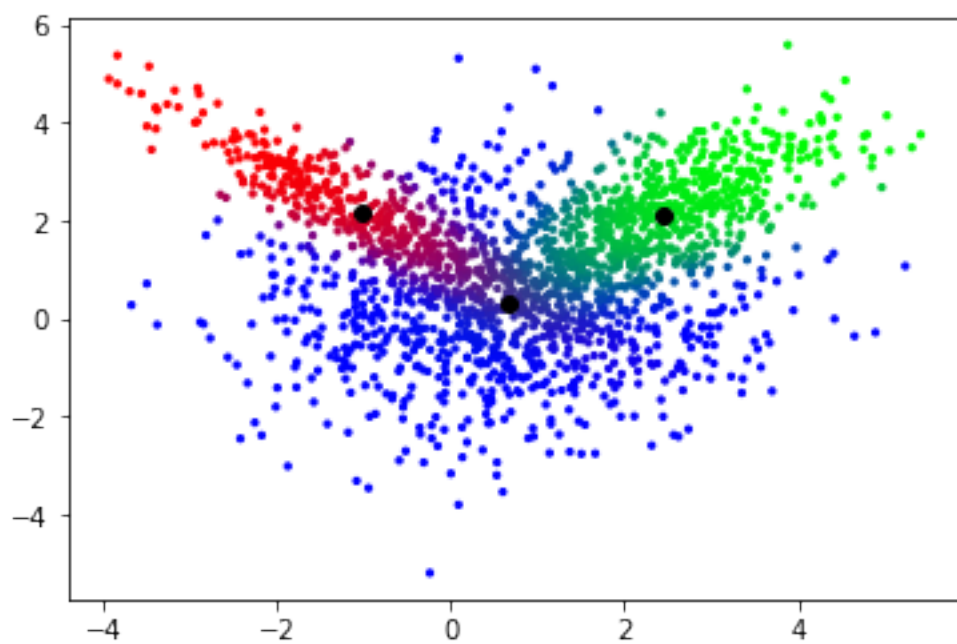
Question 4(b): K means



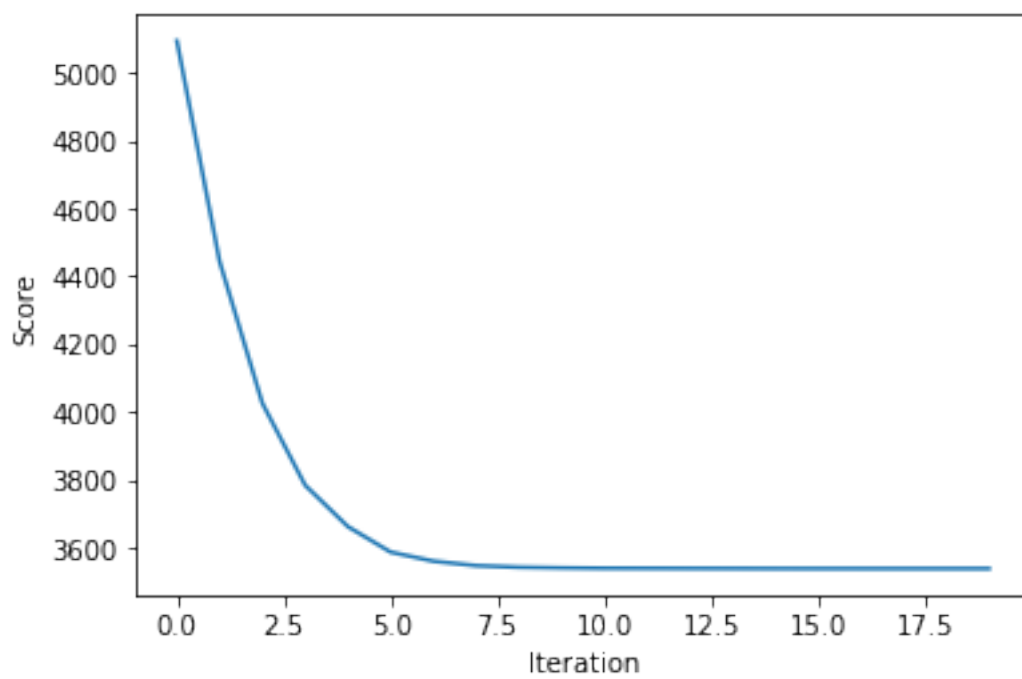
Question 4(c): Gaussian mixture model (spherical)



Question 4(d): Gaussian mixture model (full)

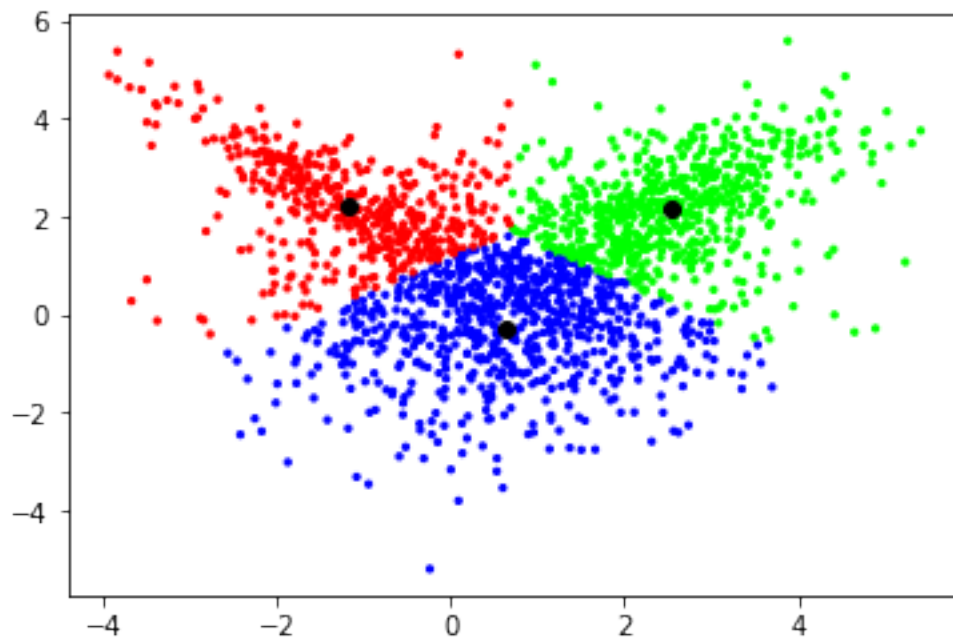


Question 4(e): score v.s. iteration (K means)

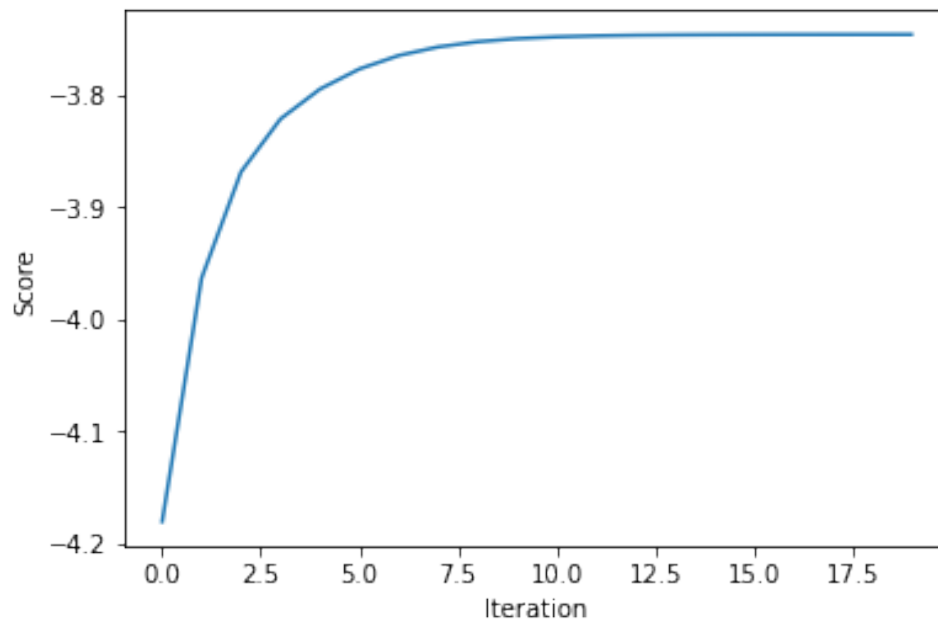




Question 4(e): Data clustered by K means



Question 4(f): a plot of score v.s. iteration number for the first 20 iterations



Question 4(f): clustered training data

