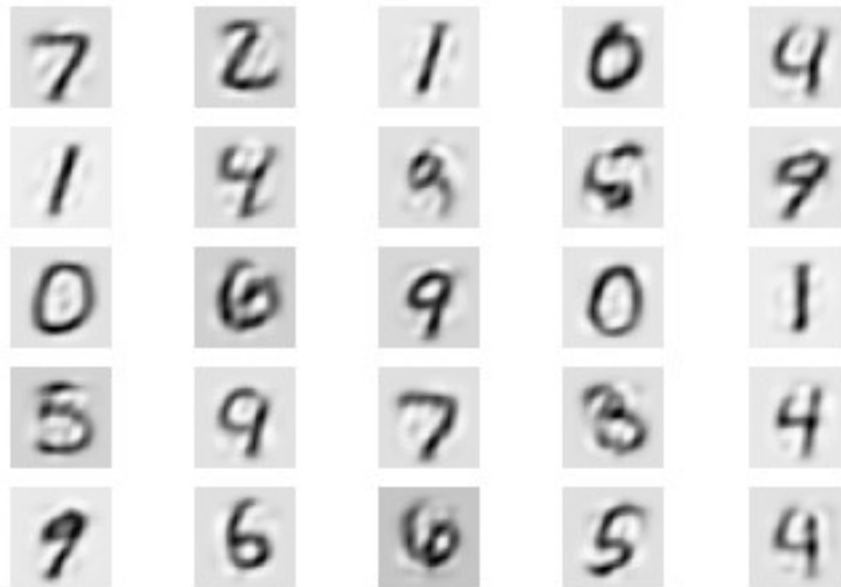


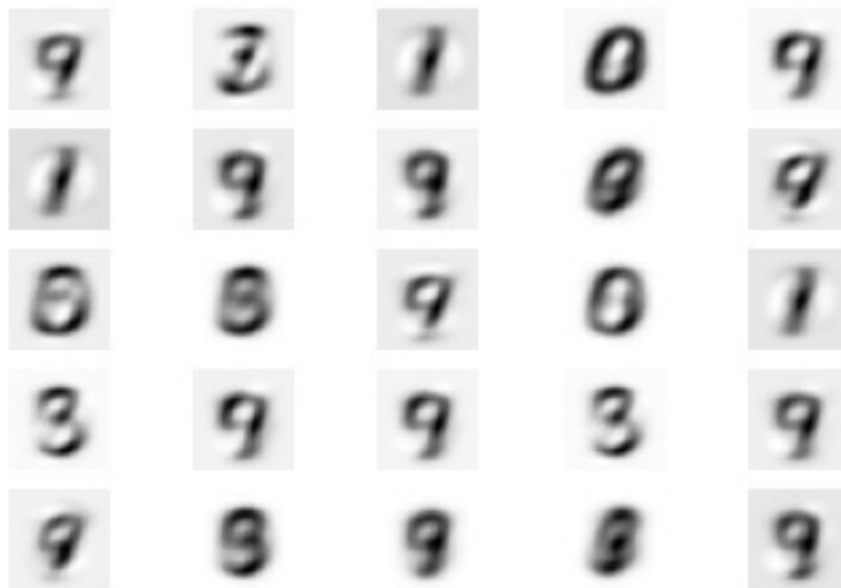
CSC311 Assignment 3
Tahir Muhammad
Figures

Question 1

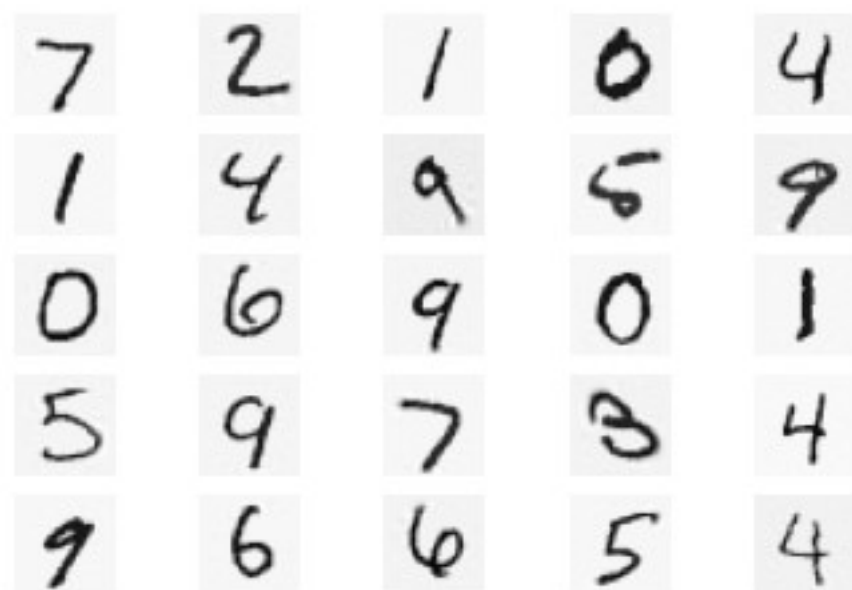
Question 1(a): MNIST test data projected onto 30 dimensions.



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)

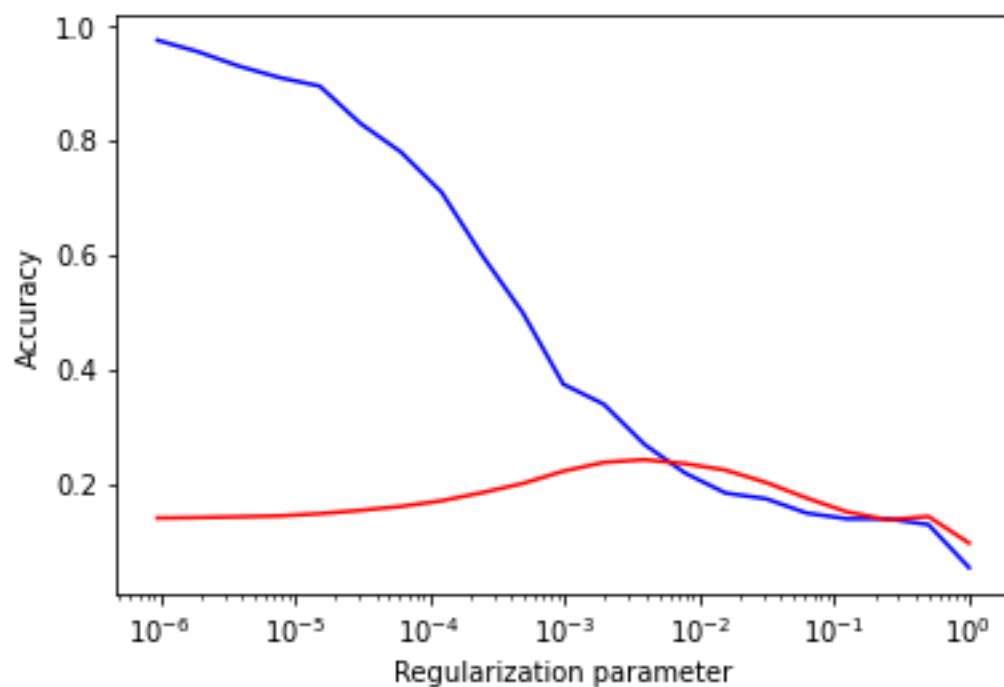


Question 1(f): MNISTdata projected onto 100 dimensions (sklearn)

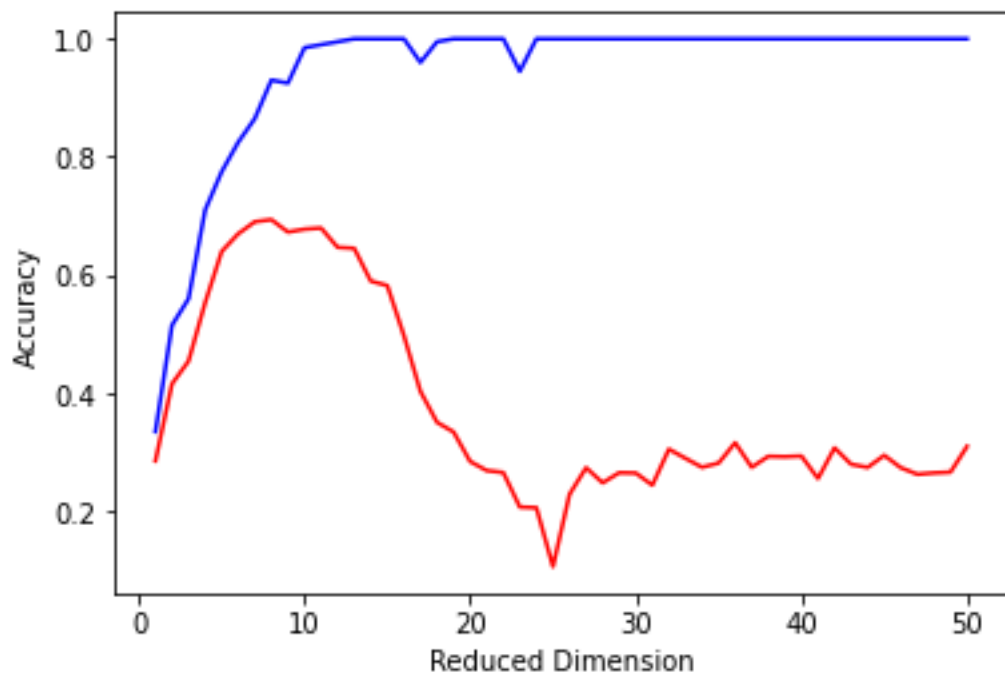


Question 2

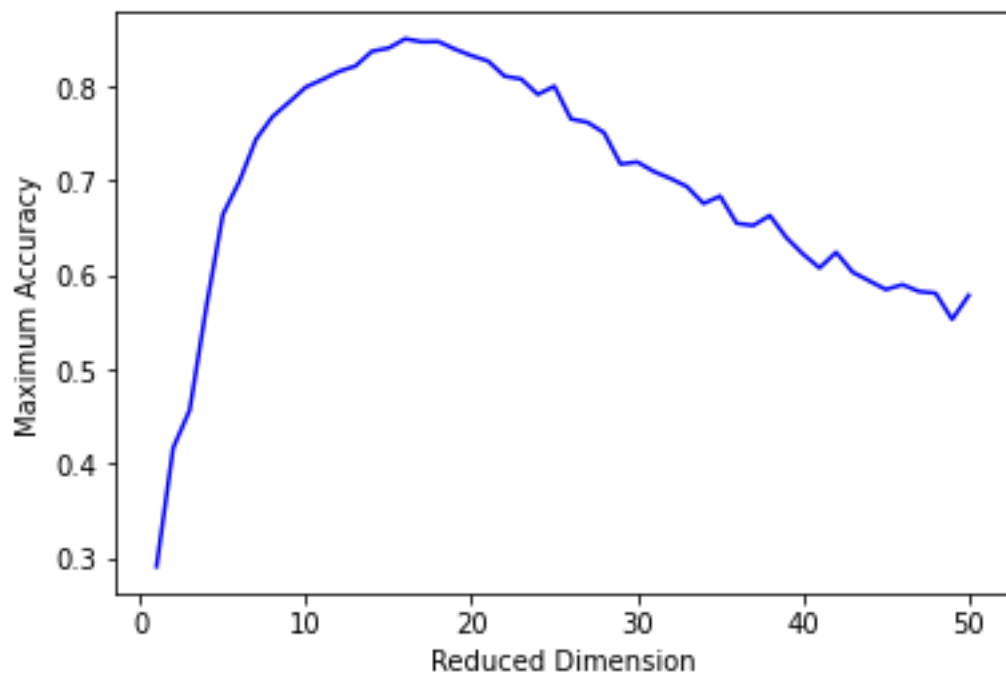
Question 2(b): Training and Validation Accuracy for Regularized QDA



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

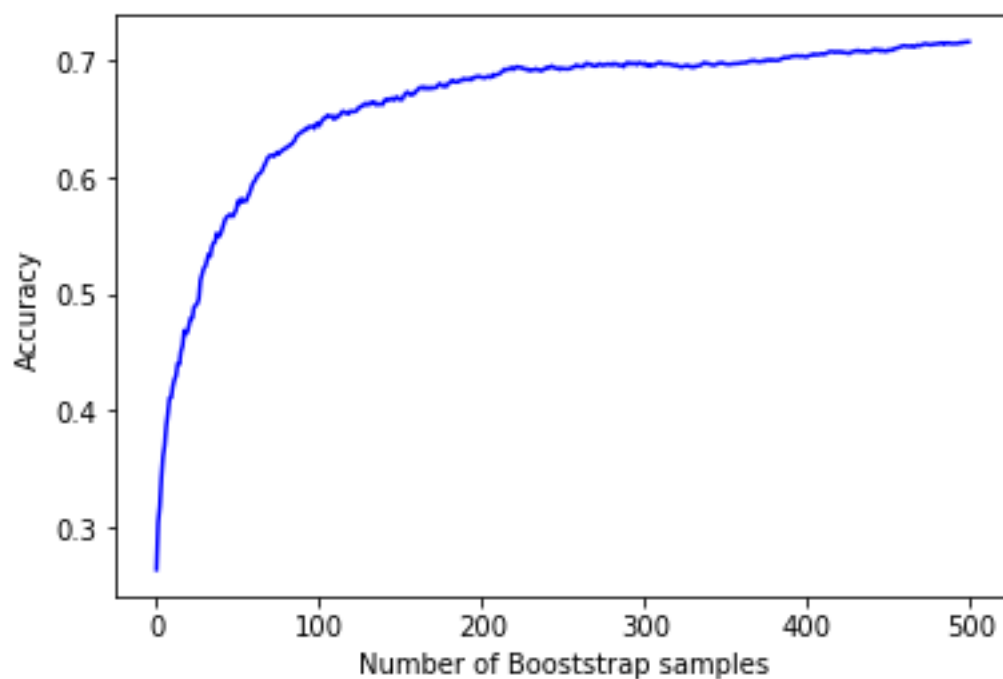


Question 2(f): Maximum validation accuracy for QDA

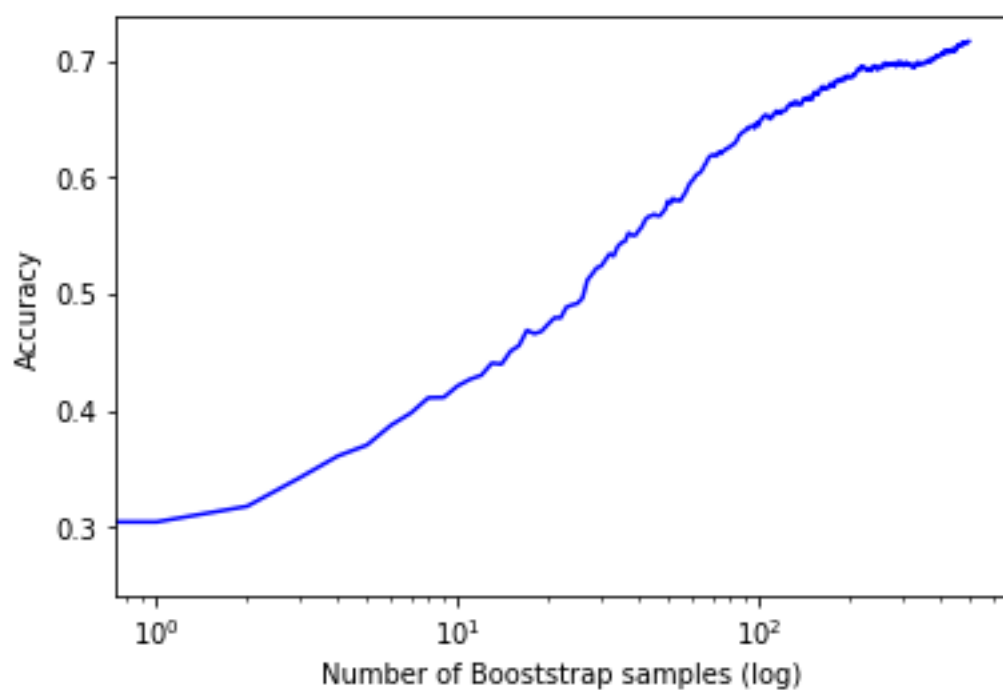


Question 3

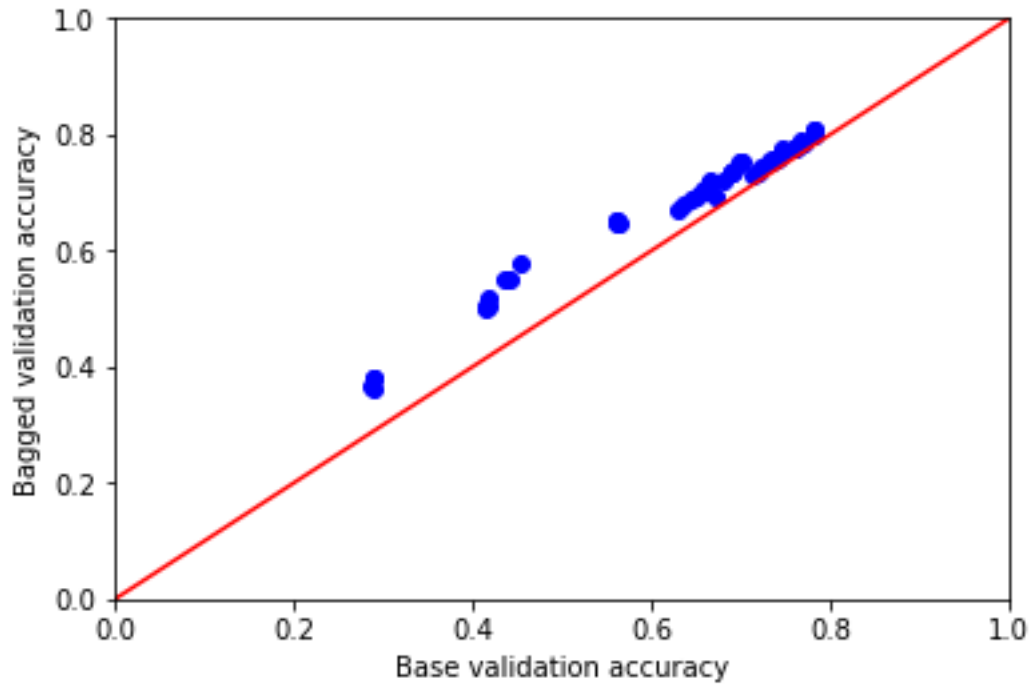
Question 3(c): Validation Accuracy



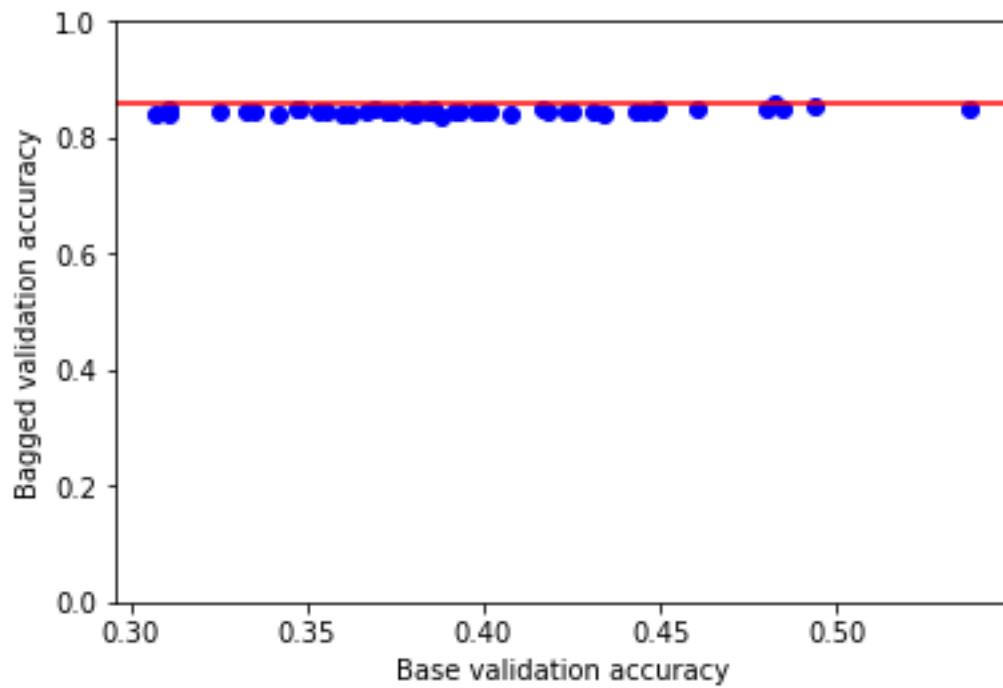
Question 3(c): Validation Accuracy (log scale)



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

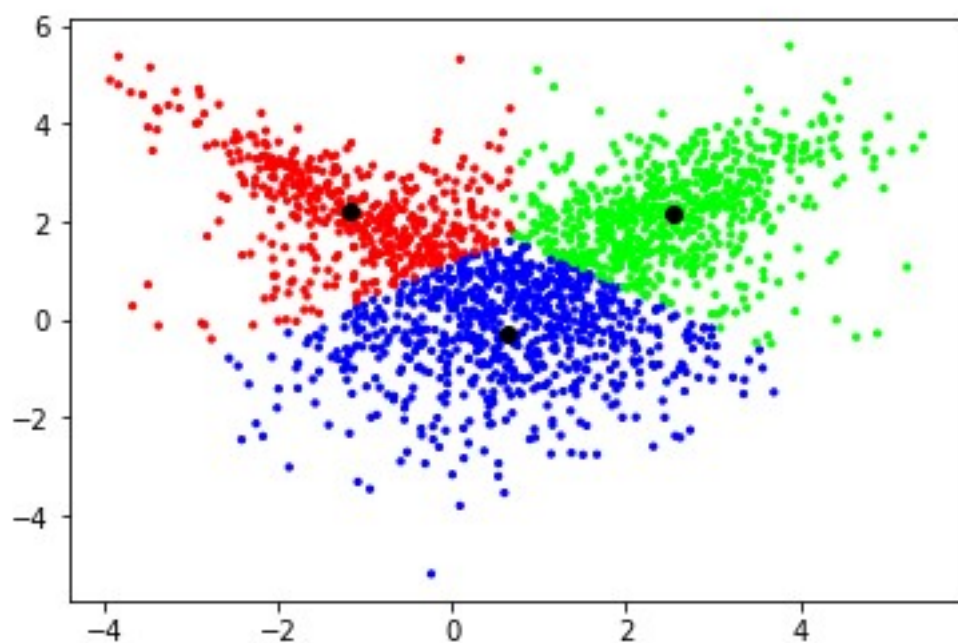


Question 3(h): Bagged v.s. base validation accuracy

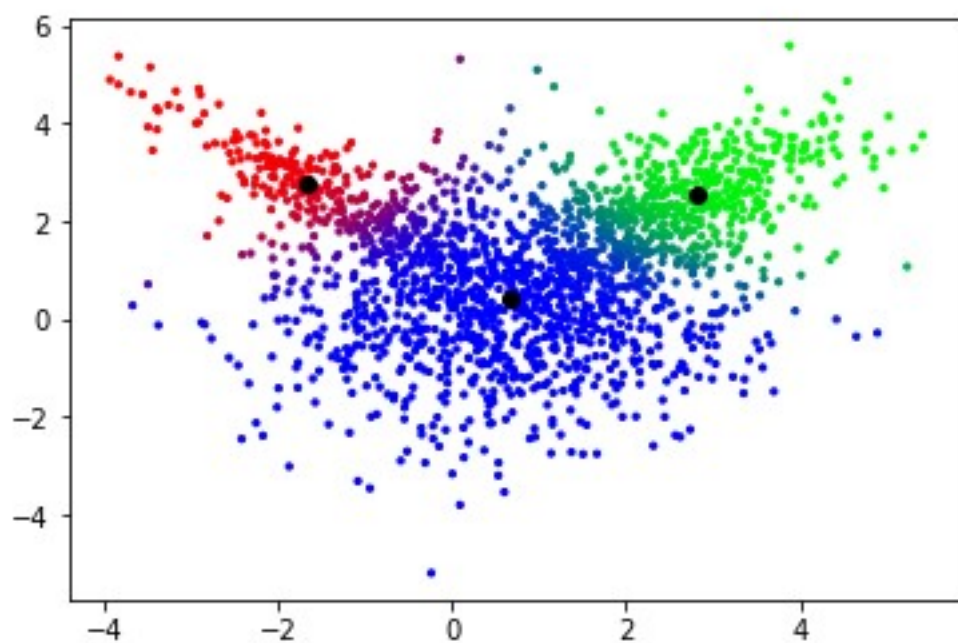


Question 4

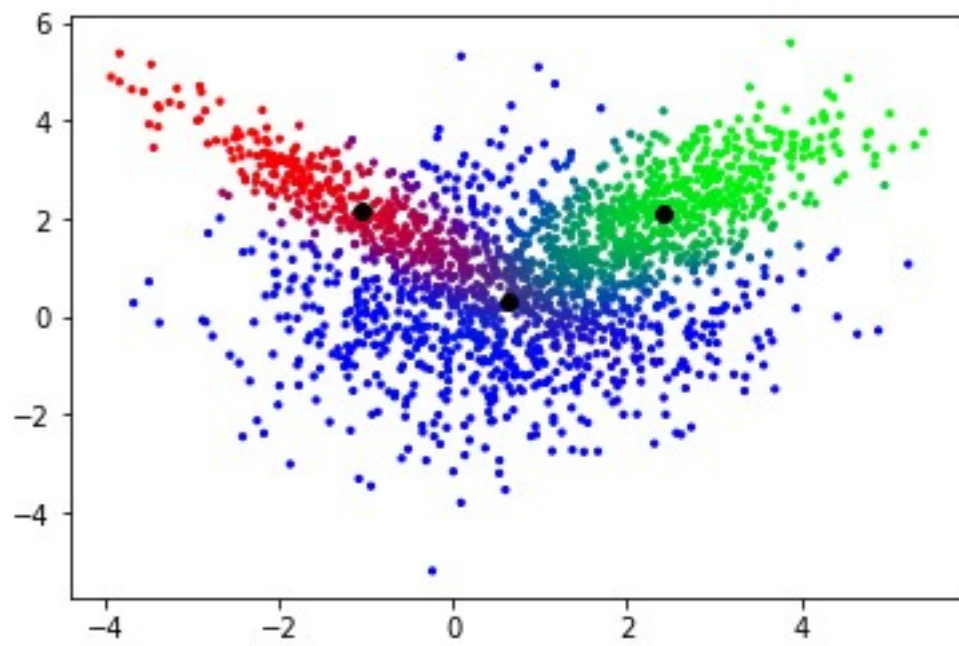
Question 4(b): K means



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



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



Question 4(e): Data clustered by K means

