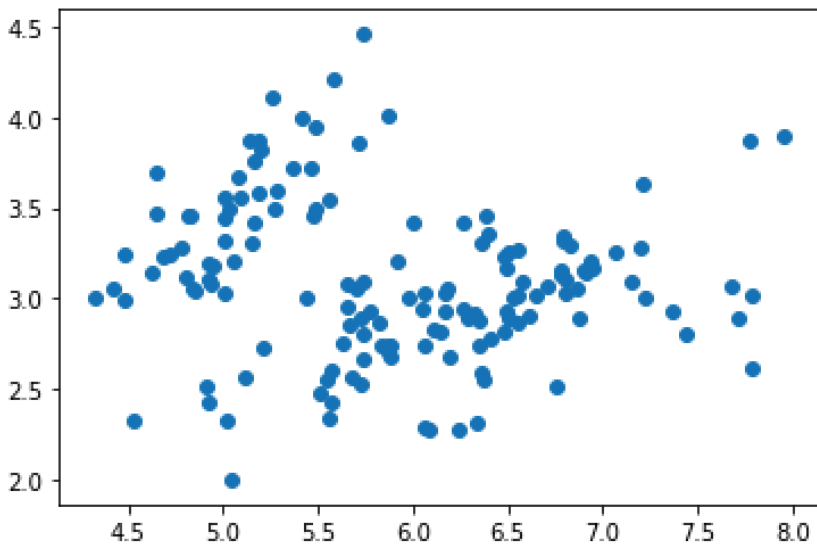
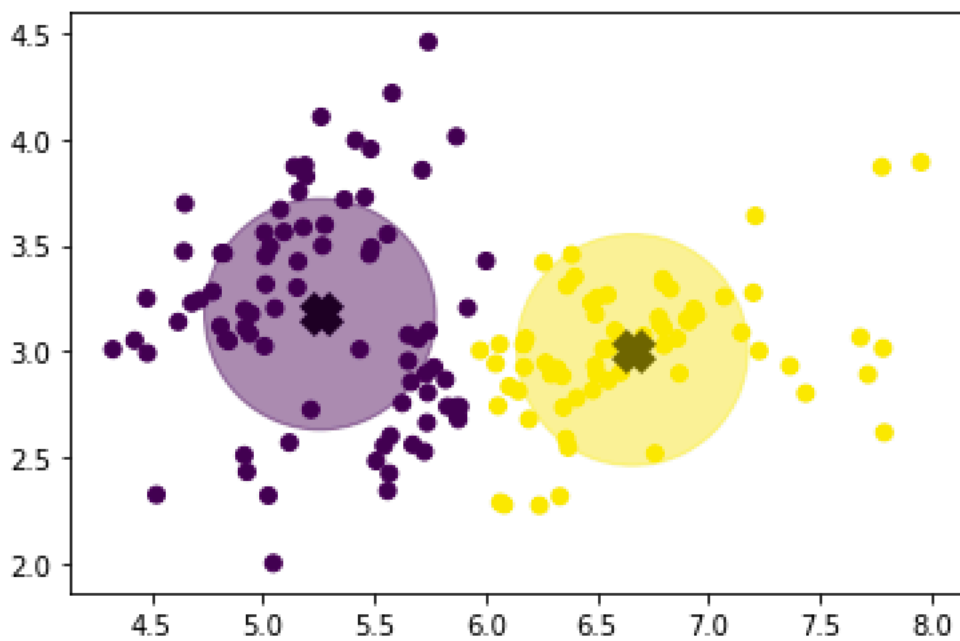
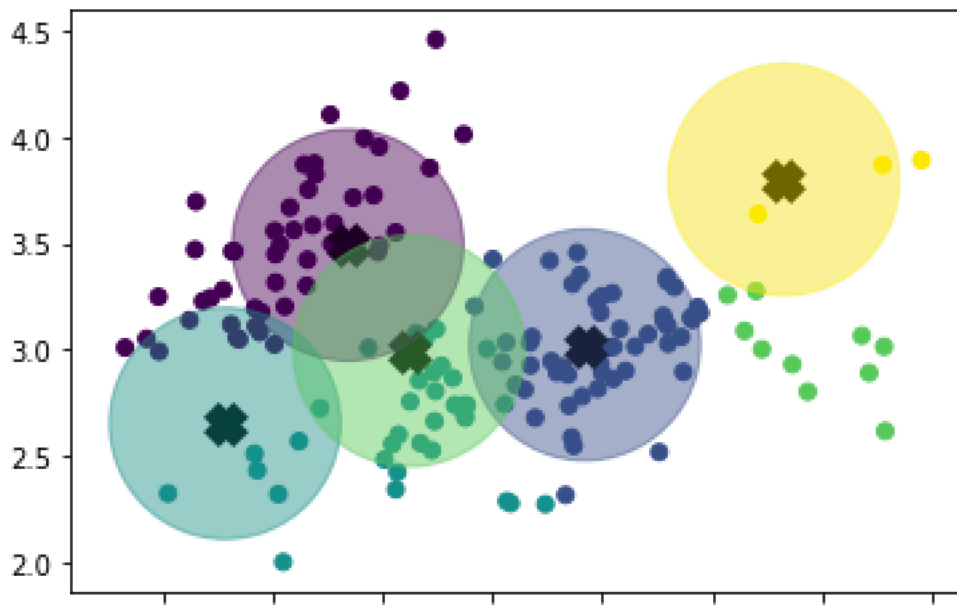


PROBLEM 1
PART 1

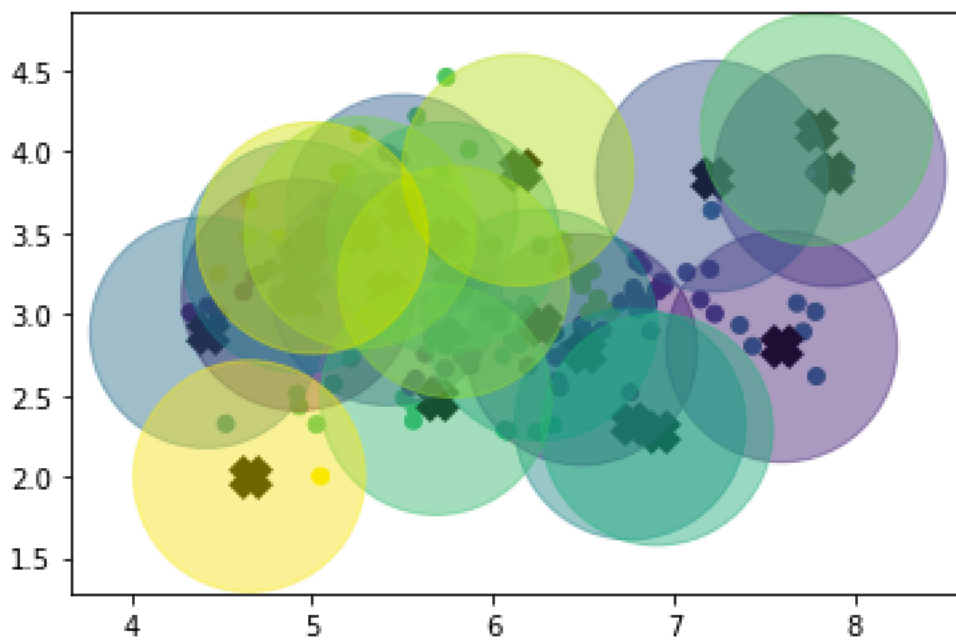
I believe there are 2 clusters. One is found within $0 < x < 6$ and $3 < y < 4.5$. The other is found within $4.5 < x < 8$ and $2 < y < 4$.

PART 2**K: 2**

K: 5

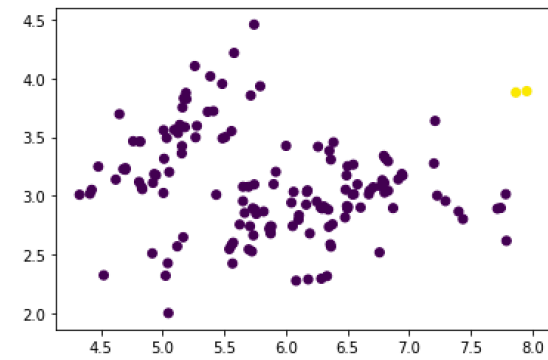


K: 20

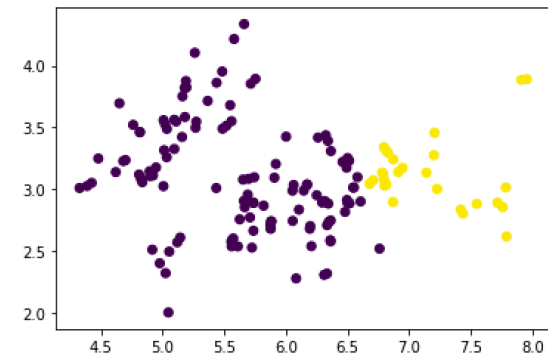


PART 3

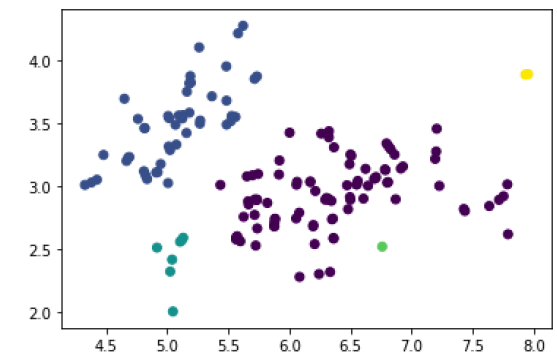
K: 2
min



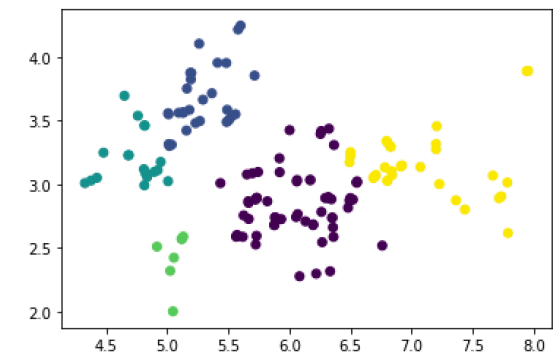
max



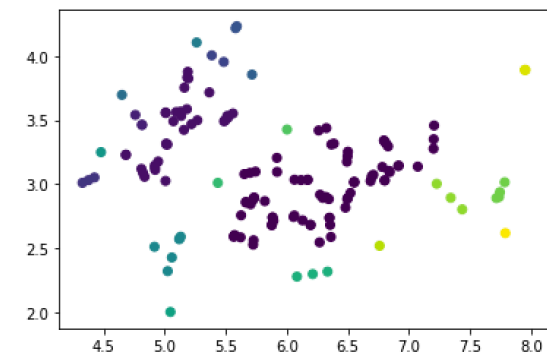
K: 5
min



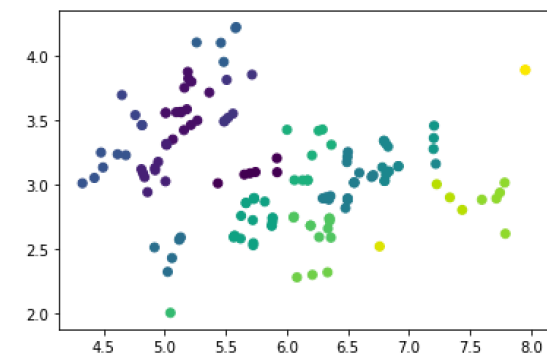
max



K: 20
min



max

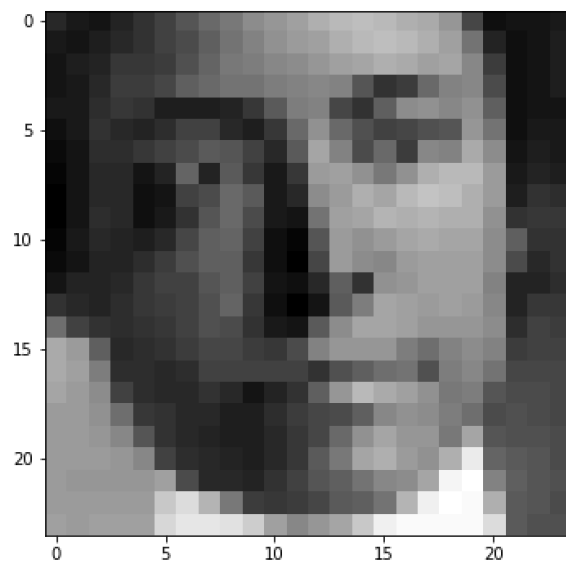
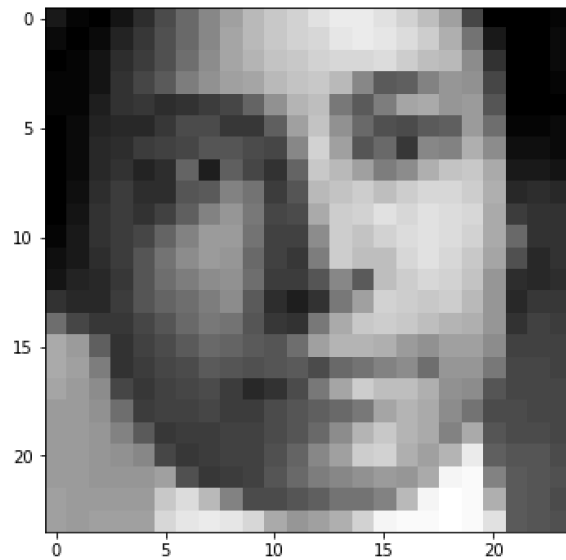


PART 4

The results created by the k-means clustering seemed to be more equally distributed amongst all the points. The results both resemble similar shapes for the clusters.

PROBLEM 2

PART 1

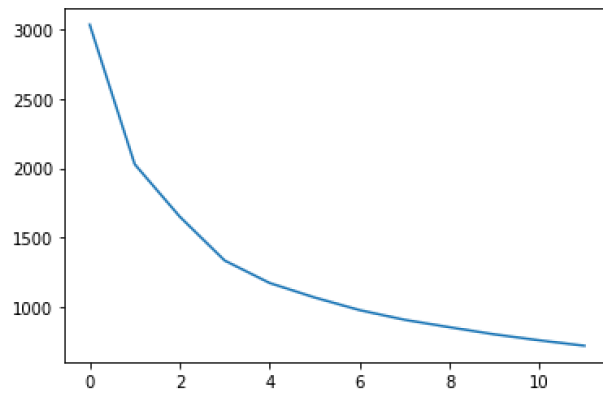


PART 2

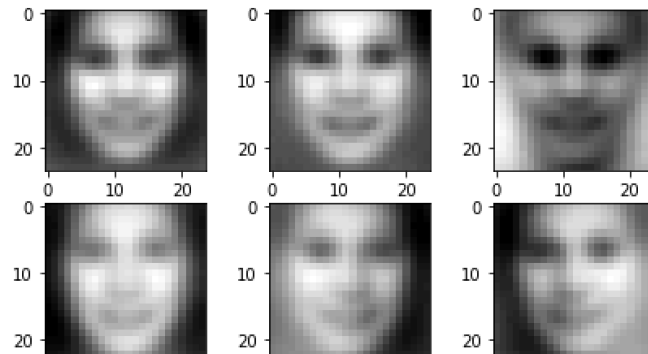
W shape: (4916, 576)

V shape: (576, 576)

PART 3



PART 4



PART 6

