Details of 5 runs for part 1

1. K = 2 , t = 5

Initial Centroid

[[ 0.04221988 0.64926863]

[ 0.76212478 0.63163894]]

Initial error

47.485118640692

Final Centroid

[[ 0.23741558 0.40694806]

[ 0.87 1.06799996]]

Mean Squared Error

27.625261549751126

1. K = 3 , t = 5

Initial Centroid

[[ 0.15699022 0.06959114]

[ 0.14529967 0.72948068]

[ 0.63421583 0.97523481]]

Initial error

54.913501607749666

Final Centroid

[[ 0.28817499 0.1478 ]

[ 0.35699999 0.82800001]

[ 0.87 1.06799996]]

Mean Squared Error

19.232900676467487

1. K = 4 , t = 5

Initial Centroid

[[ 0.79359484 0.74955523]

[ 0.6362409 0.43752781]

[ 0.77840376 0.45617101]

[ 0.57970166 0.44302702]]

Initial error

59.03817080059144

Final Centroid

[[ 0.78169566 0.91030437]

[ 0.22 0.20100001]

[ 0.77840376 0.45617101]

[ 0.27399999 0.80400002]]

Mean Squared Error

16.597935948206125

1. K = 5 , t = 5

Initial Centroid

[[ 0.27192816 0.60808808]

[ 0.04149519 0.73967749]

[ 0.64804316 0.01181111]

[ 0.19835138 0.55543619]

[ 0.62558866 0.43119919]]

Initial error

38.67443842608279

Final Centroid

[[ 0.16383871 0.64706451]

[ 0.35699999 0.82800001]

[ 0.31999999 0.013 ]

[ 0.22 0.20100001]

[ 0.87 1.06799996]]

Mean Squared Error

14.067571899761358

1. K = 6 , t = 5

Initial Centroid

[[ 0.34162876 0.79961455]

[ 0.54811734 0.45574763]

[ 0.91869211 0.37552384]

[ 0.84191883 0.06894966]

[ 0.36920765 0.76171976]

[ 0.30533007 0.4103938 ]]

Initial error

45.20497283691065

Final Centroid

[[ 0.19104348 0.74873912]

[ 0.22 0.20100001]

[ 0.87 1.06799996]

[ 0.31999999 0.013 ]

[ 0.83099997 0.85900003]

[ 0.18700001 0.56400001]]

Mean Squared Error

13.864432280740049

1. K = 7 , t = 5

Initial Centroid

[[ 0.65181994 0.00528688]

[ 0.37837237 0.15931442]

[ 0.64892983 0.47241724]

[ 0.95337892 0.39118958]

[ 0.12158926 0.45043814]

[ 0.20092304 0.98871821]

[ 0.91953856 0.05732483]]

Initial error

68.25165997160286

Final Centroid

[[ 0.34466666 0.0735 ]

[ 0.22 0.20100001]

[ 0.83099997 0.85900003]

[ 0.91299999 0.81999999]

[ 0.21699999 0.51999998]

[ 0.27399999 0.80400002]

[ 0.91953856 0.05732483]]

Mean Squared Error

13.075444224295929