CSCI E-181 Spring 2014 Practical 1

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Warm-Up

Initially I used a K-Means implementation in Octave I had written for a previous course[1]. While this implementation was sufficient for the prior course's Dataset, when I tested it with five clusters of random data, K=5 and random initial centroids, one of the centroids would frequently not converge on any points.

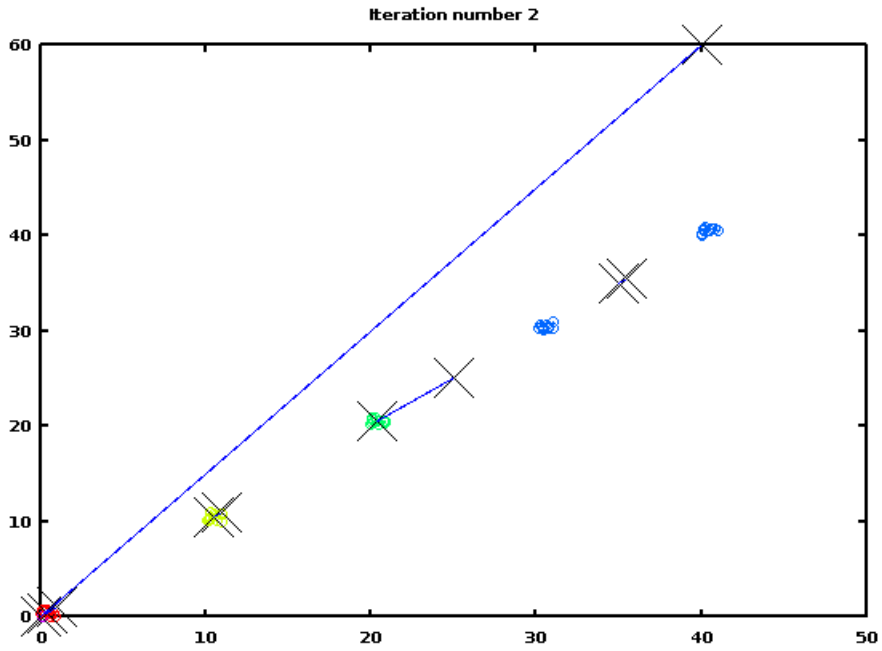

Figure 1: Random Initial Centroids After 1 Iteration

[1]Machine Learning, Coursera, Prof. Andrew Ng, Completed Jan 2014, https://class.coursera.org/ml-004

I subsequently modified the code to use K-Medoids, choosing one of the sample data points at random as an initial centroid. This worked much better.

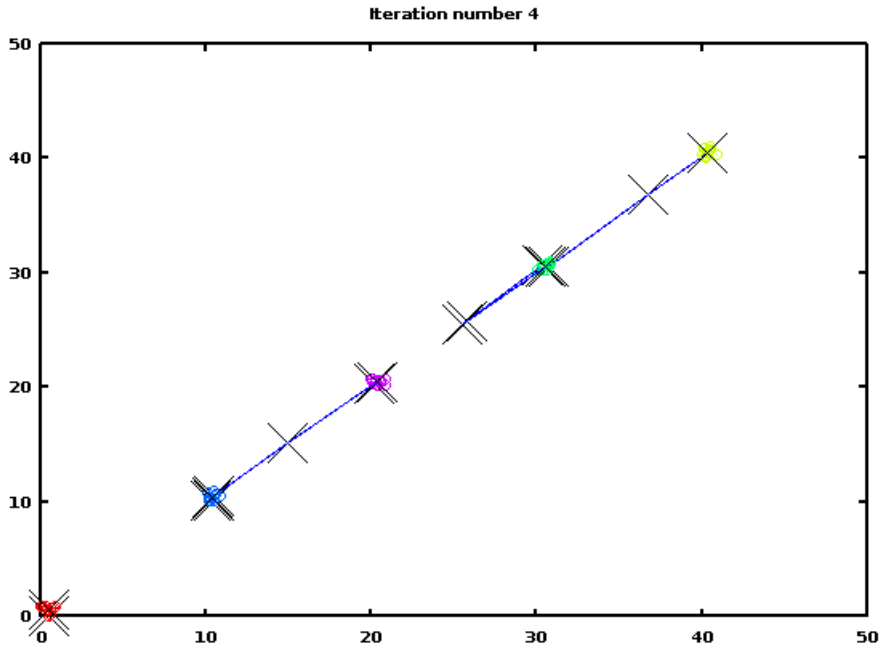

Figure 2: K-Medoids Converge After 4 Iterations