

# CSCI E-181 Spring 2014 Practical 1

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Initially I used a K-Means implementation in Octave I had written for a previous course<sup>1</sup>. 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.

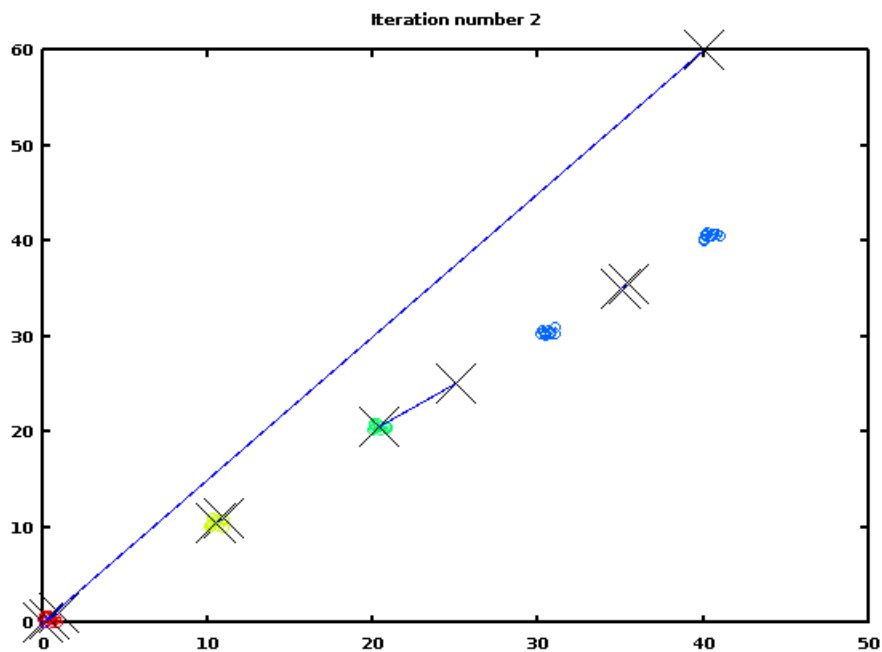


Figure 1: Random Initial Centroids After 1 Iteration

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

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