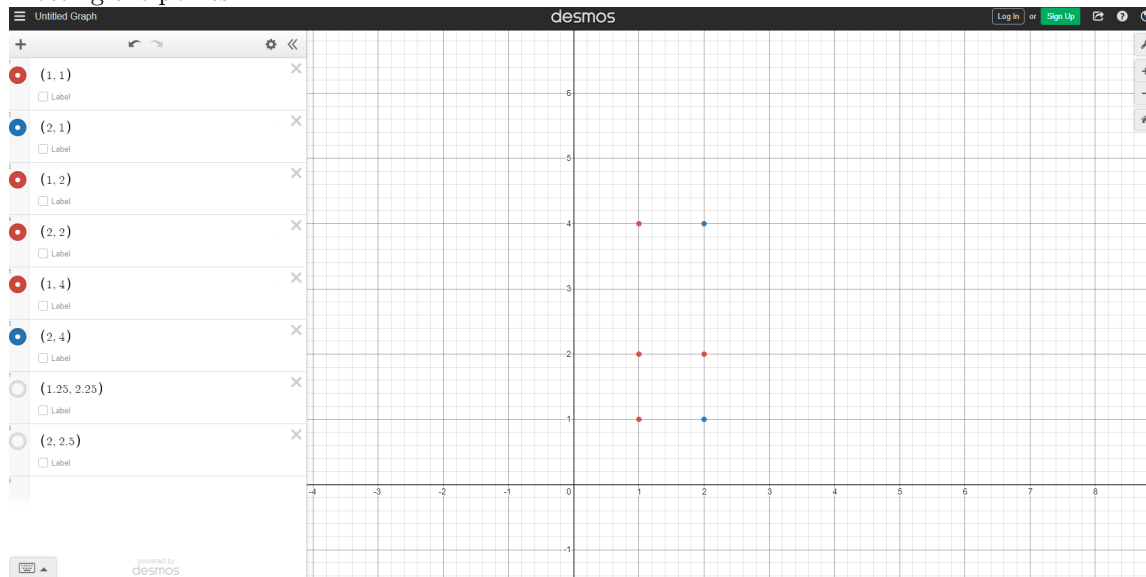
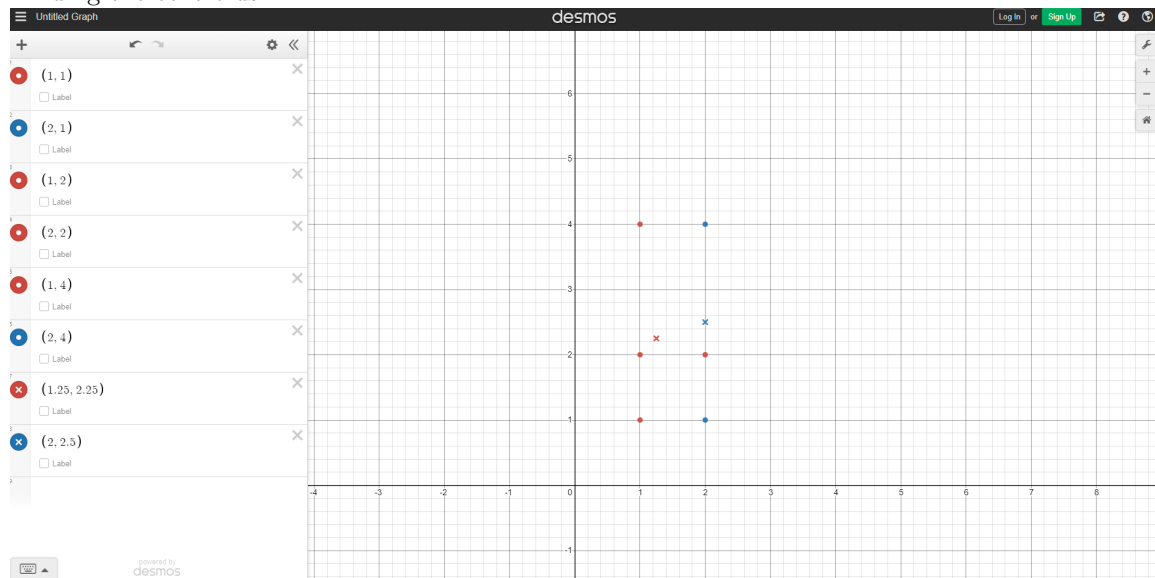


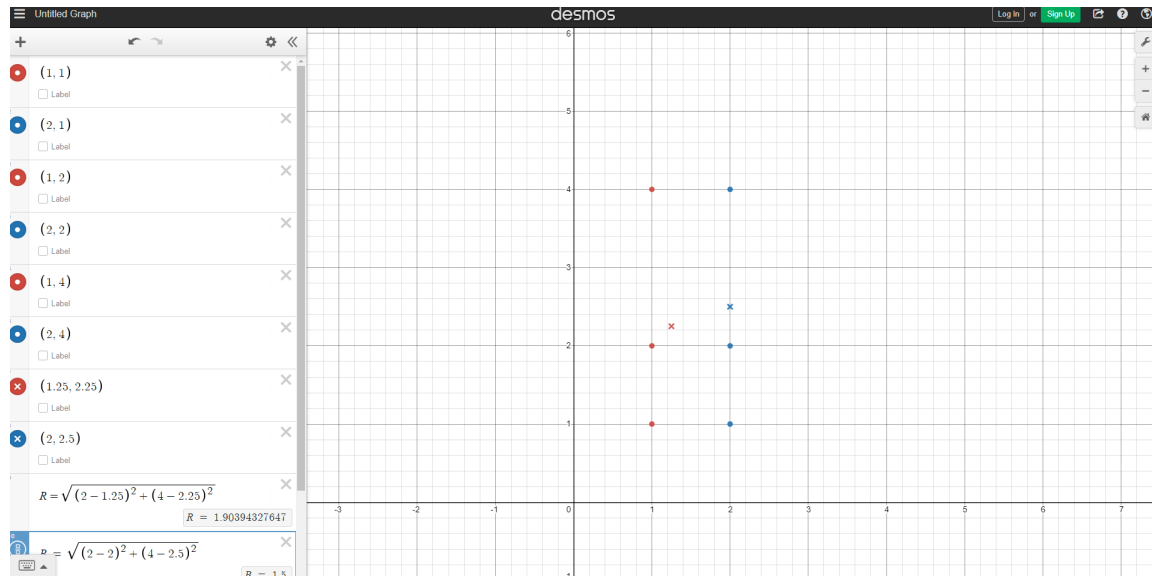
1. Plotting the points:



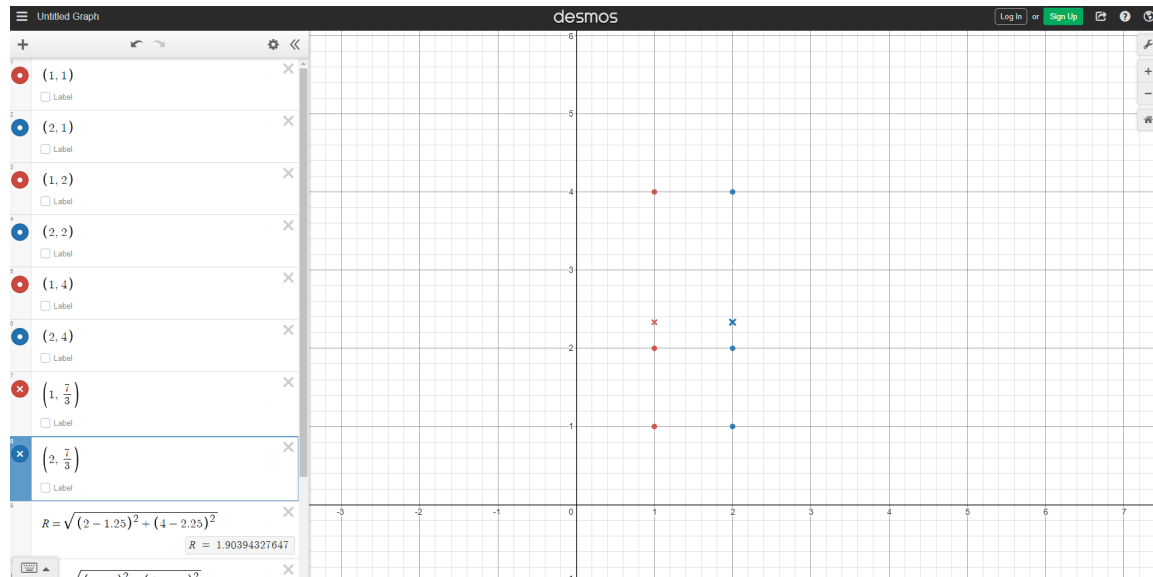
2. (a) Finding the centroids:



(b) Re-assigning the points:



(c) In the next iteration:



(d) These do not look like the two centroids which minimize the variation within each cluster. If we had the two centroids between the top two points and in the middle of the bottom four points, that would minimize the variation within each cluster.

3. If we assign C_1 with observations 1, 3, and 5 and C_2 with the observations 2, 4, and 6 we reach the convergece of the previous example, where we said these centroids do not minimize the variations in the groups.