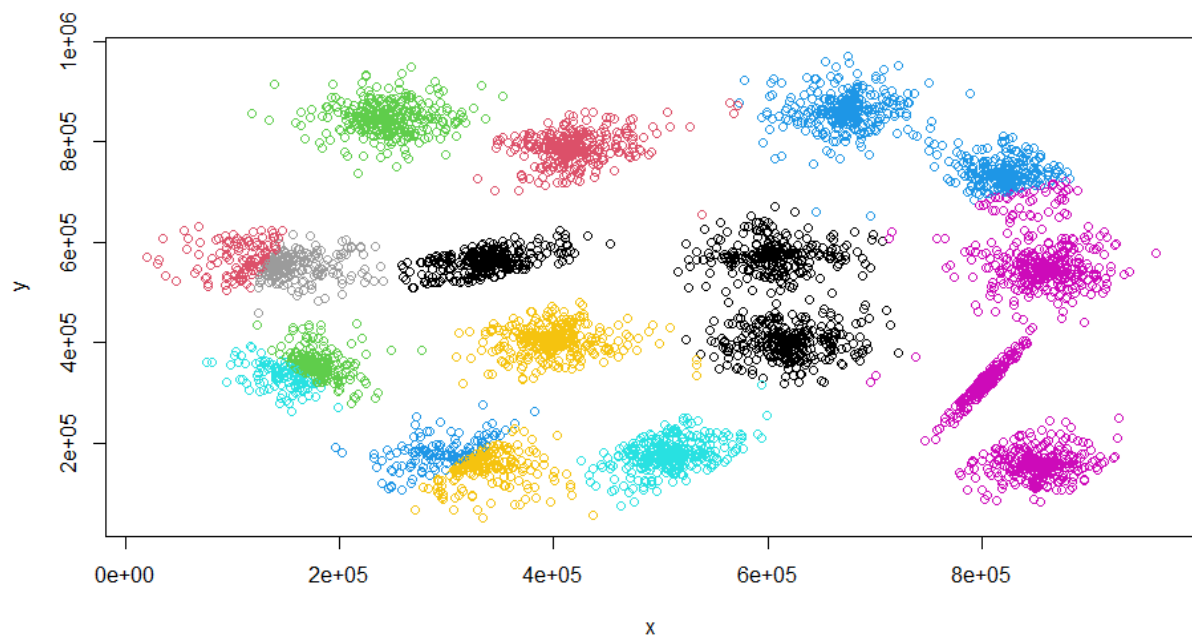
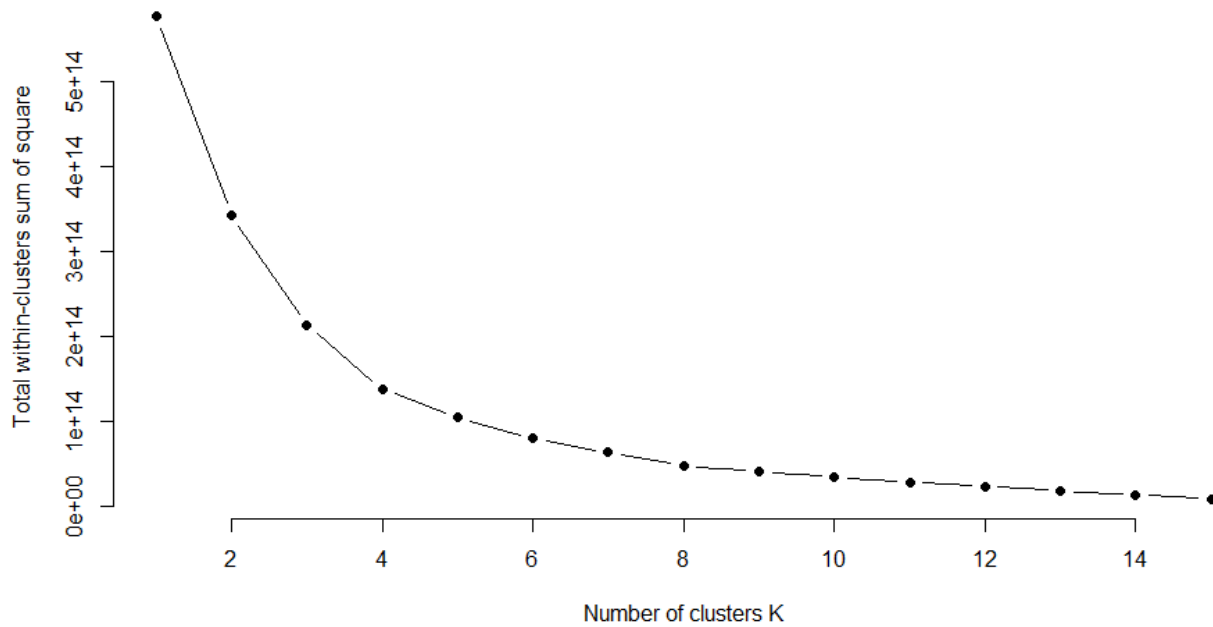


"Color-coded graph using 6 groups"



"Color-coded graph using 15 groups"



"Elbow Graph"

Report:

I believe the strongest distribution would use 6 groups. By examining the Elbow Graph, 6 clusters is where the "Total within-clusters sum of square" starts to plateau. So I started looking at ranges between 6 and 15 clusters. After utilizing the color-coded K-means clustering graphs across multiple iterations, 6 clusters was the most stable allotment. When checking a set of 7-15 the clusters kept changing through multiple iterations and struggled to find a true mean. Additionally, I checked outside of the scope with 1-5 and these configurations also were too susceptible to changing. Besides using 6 clusters, each cluster amount greater than one had more than variations. When looping through 6 clusters I only accounted for 2 variations and the provided graph occurred significantly more often than the other variation.