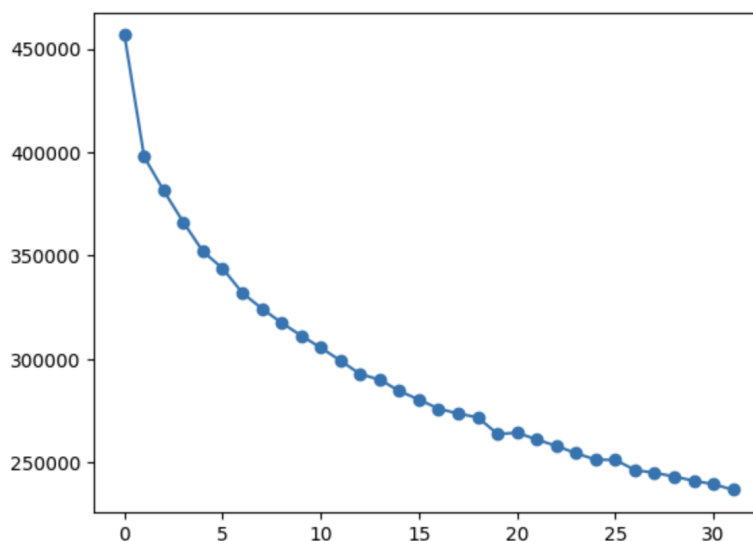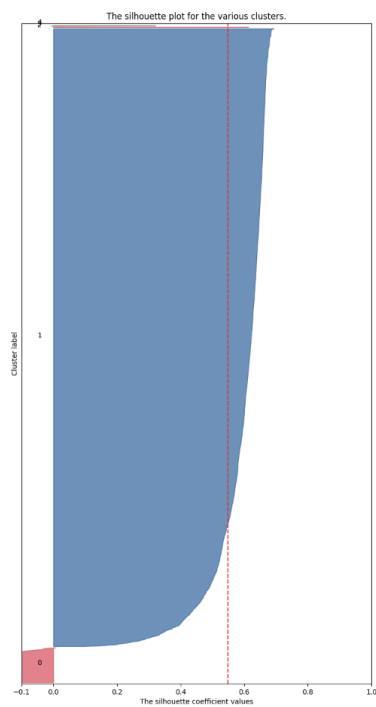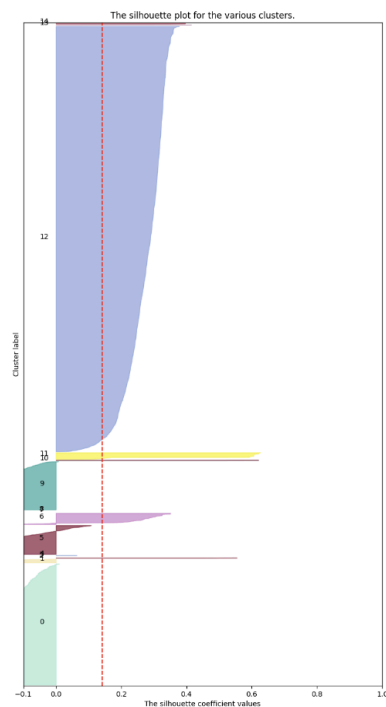# Final Assignment 3 - Plots and Clusters

In order to pinpoint the appropriate number of clusters, I used an elbow plot and ran the code with clusters ranging from 5 to 10, approximately where the "elbow" is. I also attempted to use silhouette plots, but they seemed to be less useful for this dataset. As you can see below, the plots are quite long, making it hard to discern proportions by visual inspection:

Silhouette analysis for KMeans clustering on sample data with n_clusters = 5   Silhouette analysis for KMeans clustering on sample data with n_clusters = 15

Ultimately, n=7 appeared to be the most appropriate number of clusters, with the following clusters generated (which can be viewed in full in my code):

Cluster Label 0: Packaged food

Cluster Label 1: Ice cream

Cluster Label 2: Green beans and peas

Cluster Label 3: Trail mix and seeds

Cluster Label 4: Trail mix and seeds

Cluster Label 5: Mixed vegetables

Cluster Label 6: Things that go in a refrigerator