

1. You wish to cluster a dataset consisting of 1,000,000 points on a computer with 16GB of memory. Would you use k-means clustering or hierarchical agglomerative clustering? Explain your answer.
2. Consider a dataset X consisting of the following points: 1, 2, 3.5, 8, 10 and 14
Calculate by hand two iterations of the k-means clustering algorithm for $k=2$, on the above dataset X, with the two centroids initialised to 1 and 2. What are the clusters and centroids after the first and second iterations?