

MAT 345 - Homework 8
Due Wednesday, November 21, 2018, in class

(5 points). We consider the unlabeled data points:

x_1	x_2	x_3
1	1	0
1	0	1
2	0	0
1	3	1
3	3	2
3	0	0
0	2	1
2	3	0
0	0	0
2	1	3

- (a) Use the k -means algorithm to cluster the data into 2 clusters. Start with centroids $\mathbf{m}_1 = (1, 1, 0)$ and $\mathbf{m}_2 = (2, 3, 0)$. Output centroids and clusters.
- (b) Use the k -means algorithm to cluster the data into 3 clusters. Start with centroids $\mathbf{m}_1 = (0, 0, 0)$, $\mathbf{m}_2 = (3, 3, 2)$, and $\mathbf{m}_3 = (2, 0, 0)$. Output centroids and clusters.

Show your steps.