## Unsupervised Learning

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1.

For which of the following tasks might K-means clustering be a suitable algorithm? Select all that apply.



0/1 points

2.

Suppose we have three cluster centroids  $\mu_1 = \begin{bmatrix} 1 \\ 2 \end{bmatrix}$ ,  $\mu_2 = \begin{bmatrix} -3 \\ 0 \end{bmatrix}$  and  $\mu_3 = \begin{bmatrix} 4 \\ 2 \end{bmatrix}$ . Furthermore, we have a training example  $x^{(i)} = \begin{bmatrix} 3 \\ 1 \end{bmatrix}$ . After a cluster assignment step, what will  $c^{(i)}$  be?

3.

K-means is an iterative algorithm, and two of the following steps are repeatedly carried out in its inner-loop. Which two?



1/1 points

4.

Suppose you have an unlabeled dataset  $\{x^{(1)},\ldots,x^{(m)}\}$ . You run K-means with 50 different random

initializations, and obtain 50 different clusterings of the

data. What is the recommended way for choosing which one of

these 50 clusterings to use?



1/1 points

5.

Which of the following statements are true? Select all that apply.



