



k-means clustering

Due dates for this week:

12pm Friday — practicum 9

Next week:

Office hours/in-person help time for **all final projects** during regularly scheduled Wednesday sections.

No class on 11/11 (during Thursday sections), it's Veteran's Day

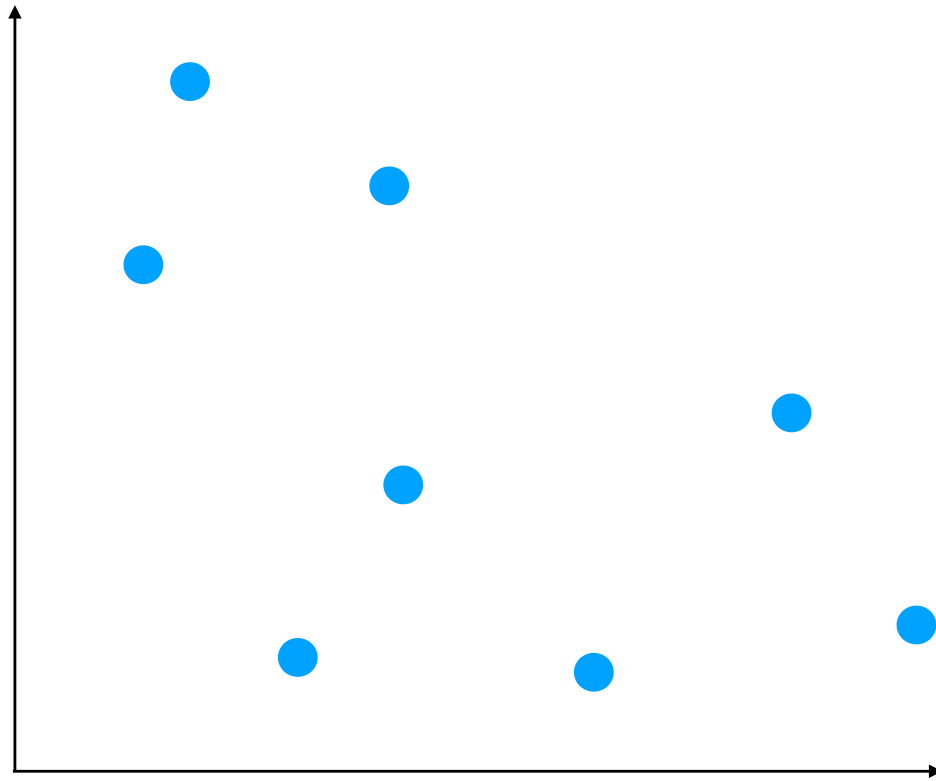
k-means clustering

- unsupervised machine learning algorithm
- goal: given data without labels, find groups ("clusters") that go together



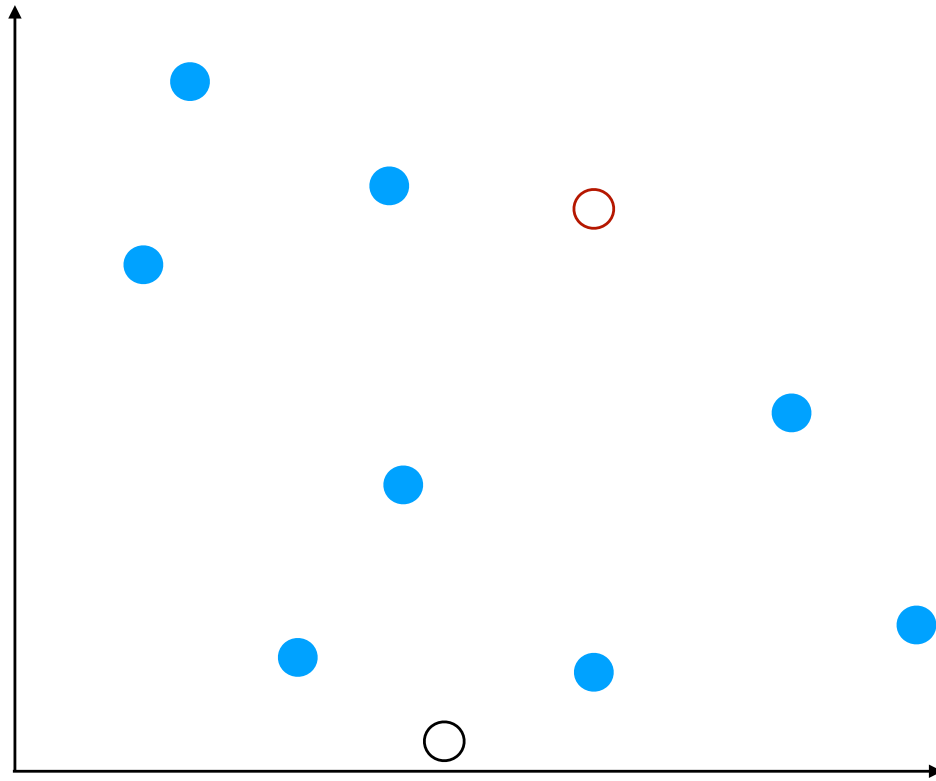
k-means clustering

- Step 1: plot your data



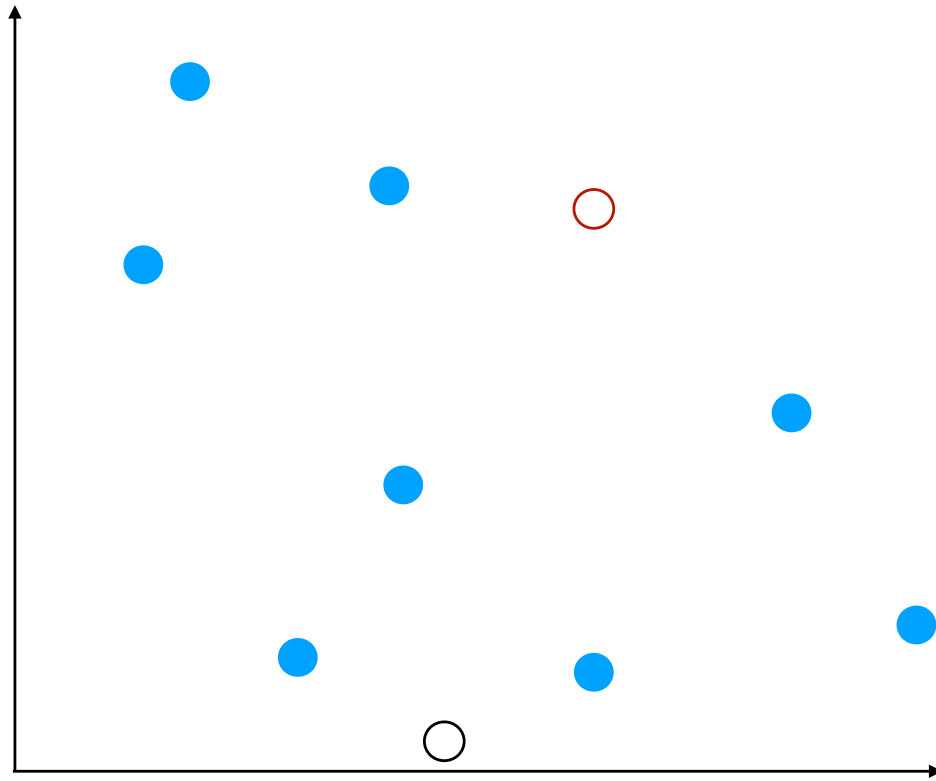
k-means clustering

- Step 2: randomly initialize k means ("centroids")



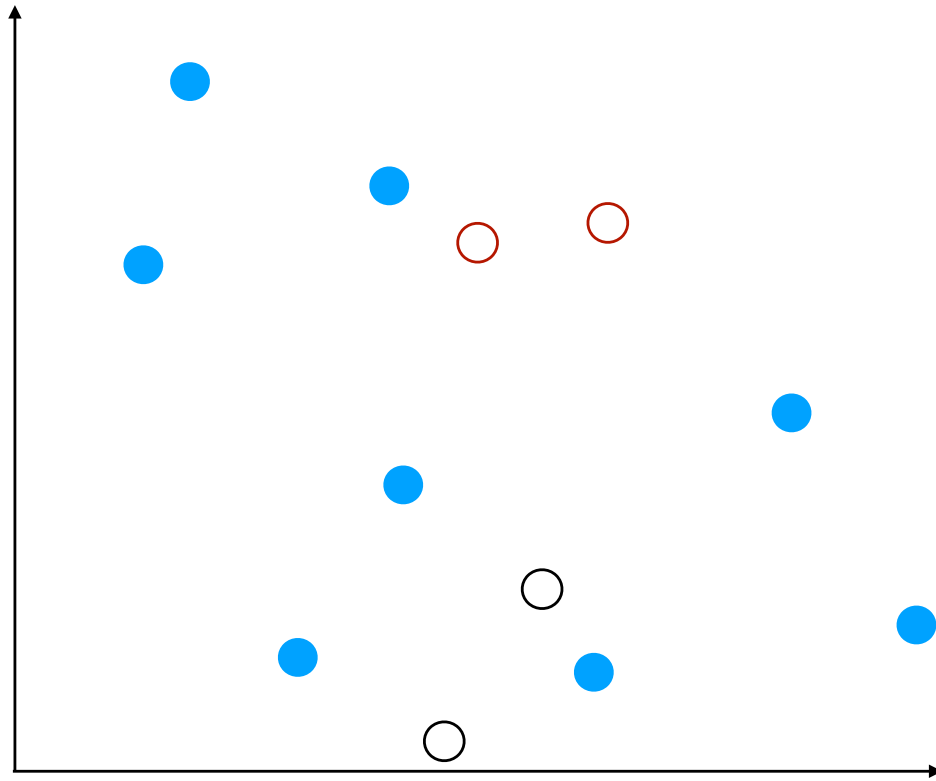
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- Step 3: assign data points to closest centroid



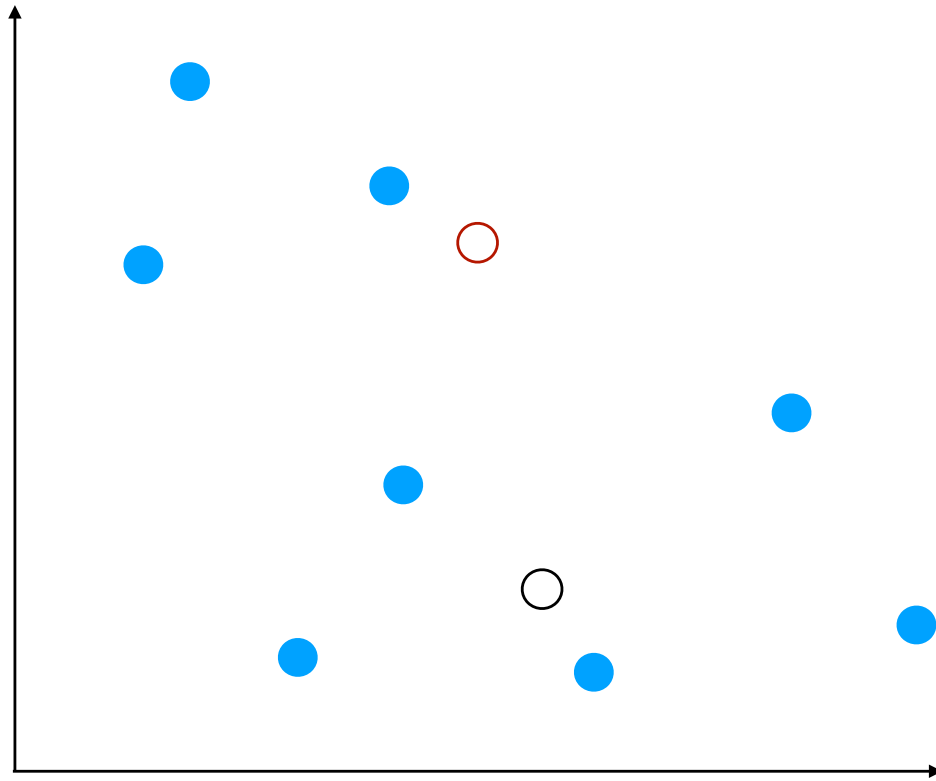
k-means clustering

- Step 4: adjust the centroids to be the mean of the group of data that they "belong" to



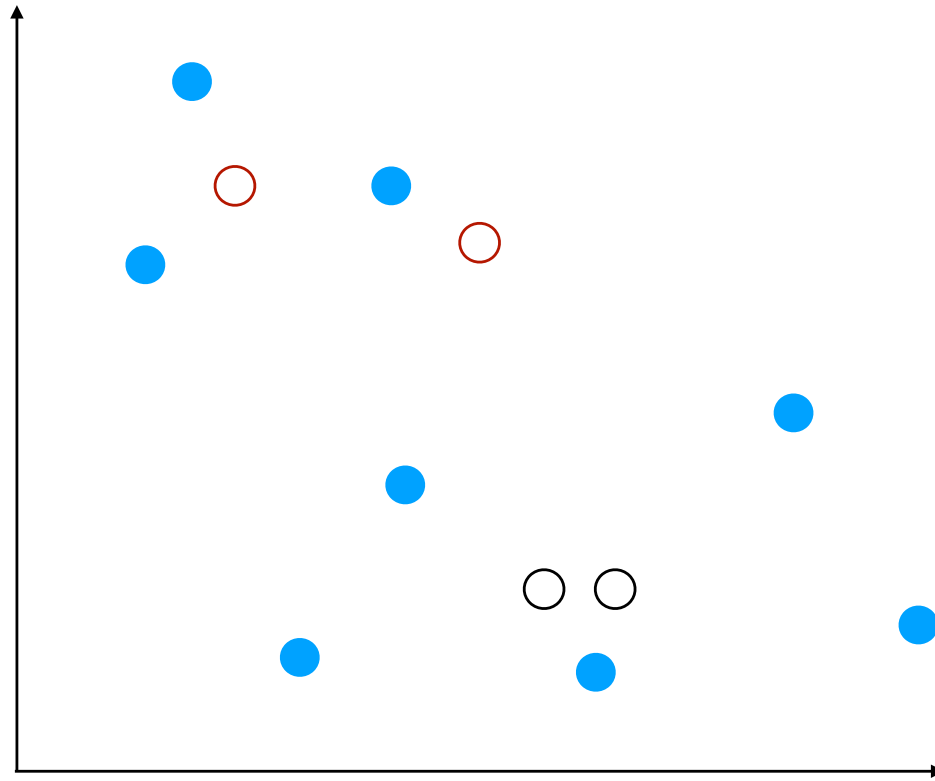
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- Terminate either after a pre-determined number of iterations or when centroids no longer move

