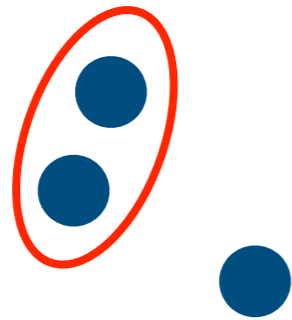


[320] Agglomerative Clustering

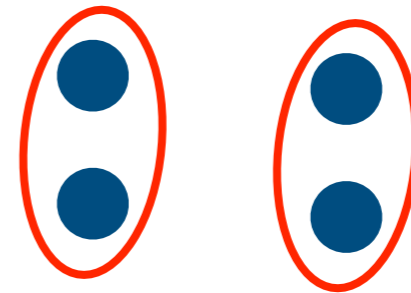
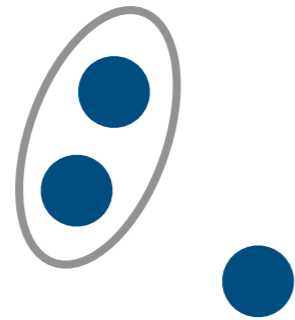
Strategy: Combine Nearby Points/Groups  
(and repeat!)



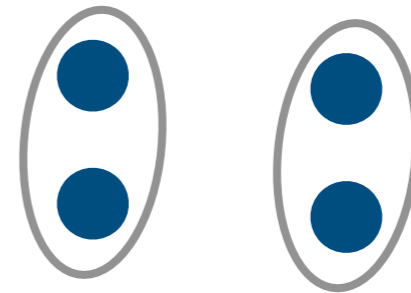
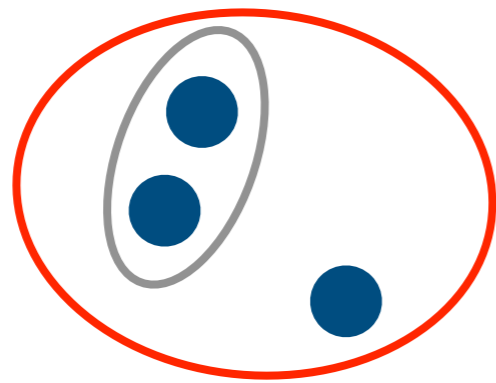
Strategy: Combine Nearby Points/Groups  
(and repeat!)



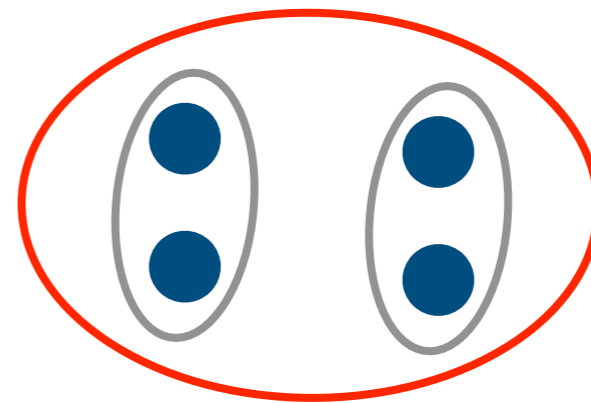
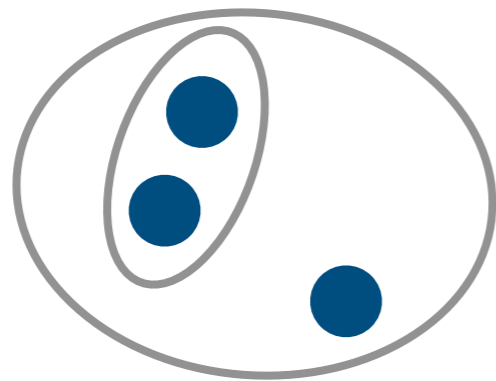
Strategy: Combine Nearby Points/Groups  
(and repeat!)



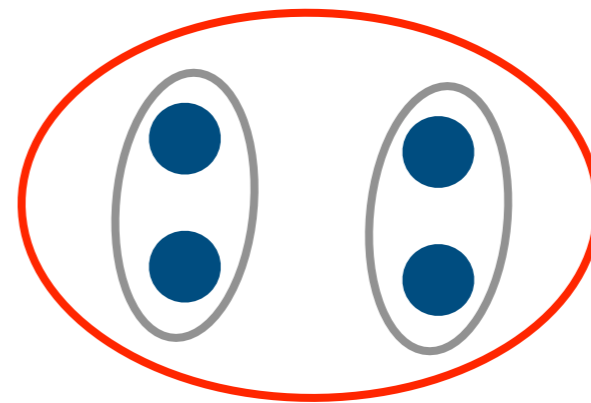
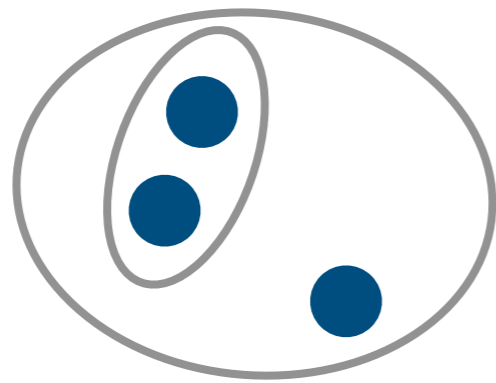
Strategy: Combine Nearby Points/Groups  
(and repeat!)



Strategy: Combine Nearby Points/Groups  
(and repeat!)



Strategy: Combine Nearby Points/Groups  
(and repeat!)

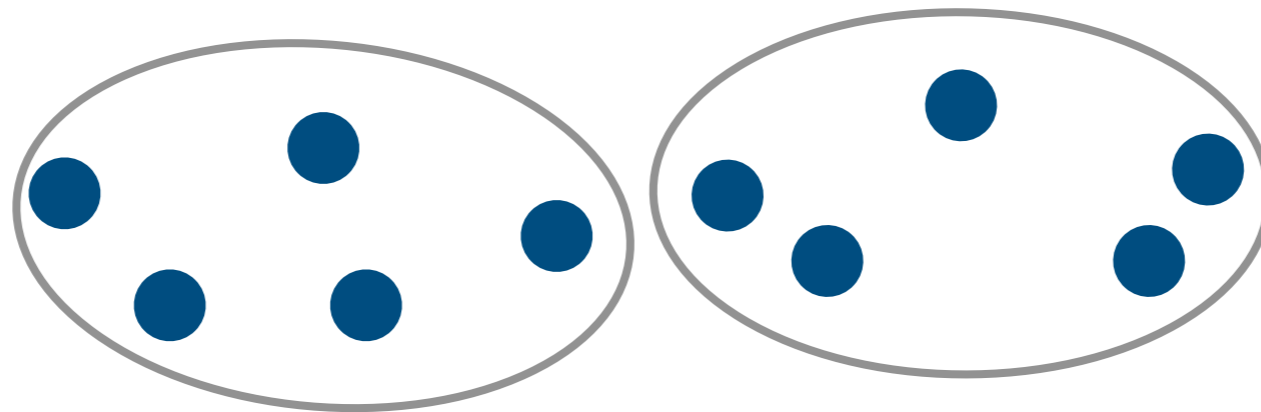


Configuration: what is "nearest"?

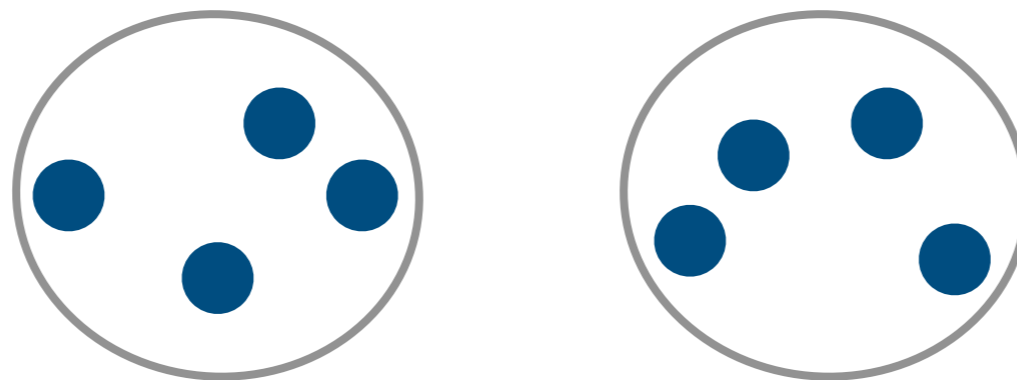
option: `linkage`



# Configuration: what is "nearest"?

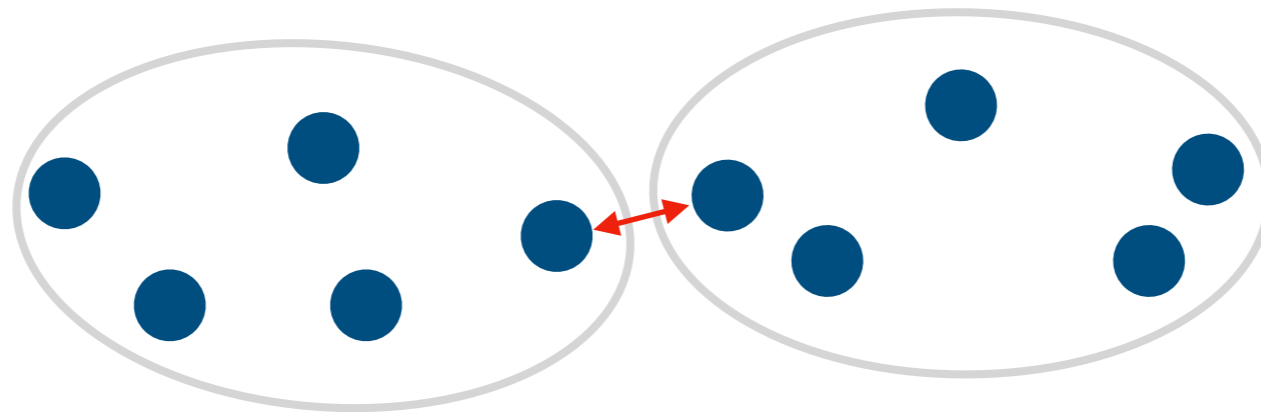


OR...

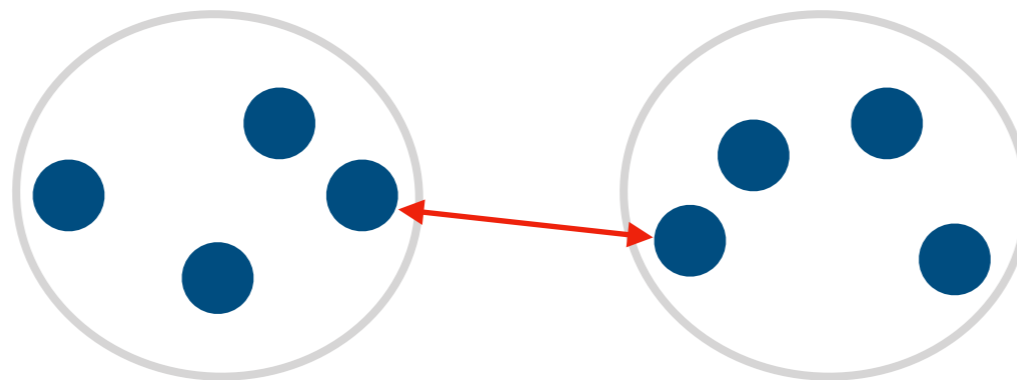


# Configuration: what is "nearest"?

linkage="single"

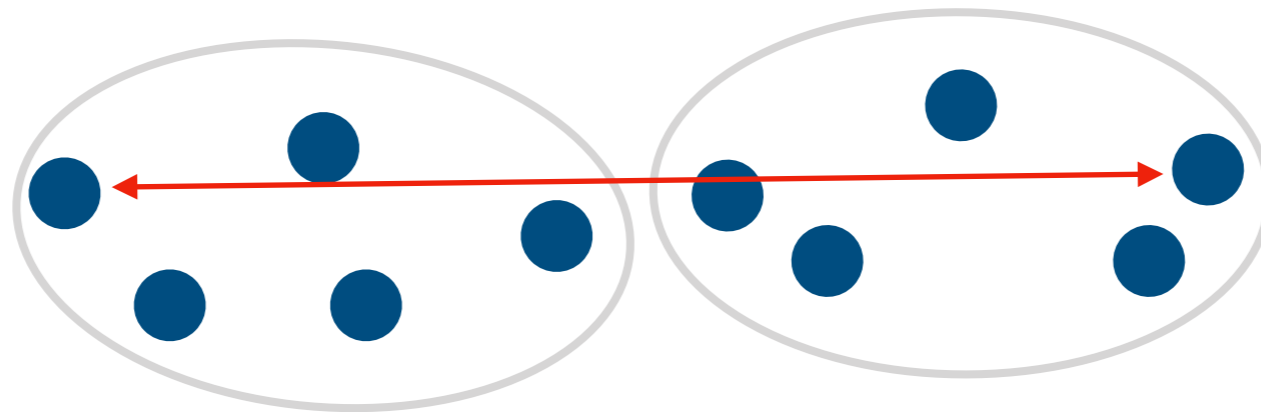


OR...

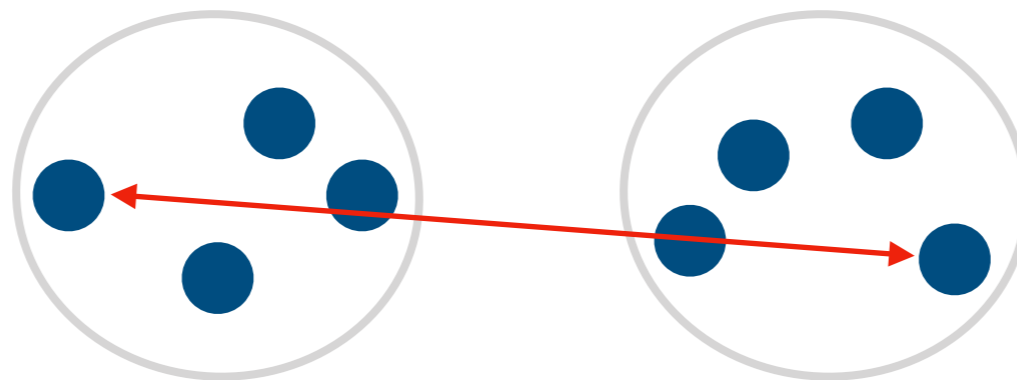


# Configuration: what is "nearest"?

linkage="complete"



OR...



# Configuration: what is "nearest"?

linkage="????"

From docs: <https://scikit-learn.org/stable/modules/generated/sklearn.cluster.AgglomerativeClustering.html>

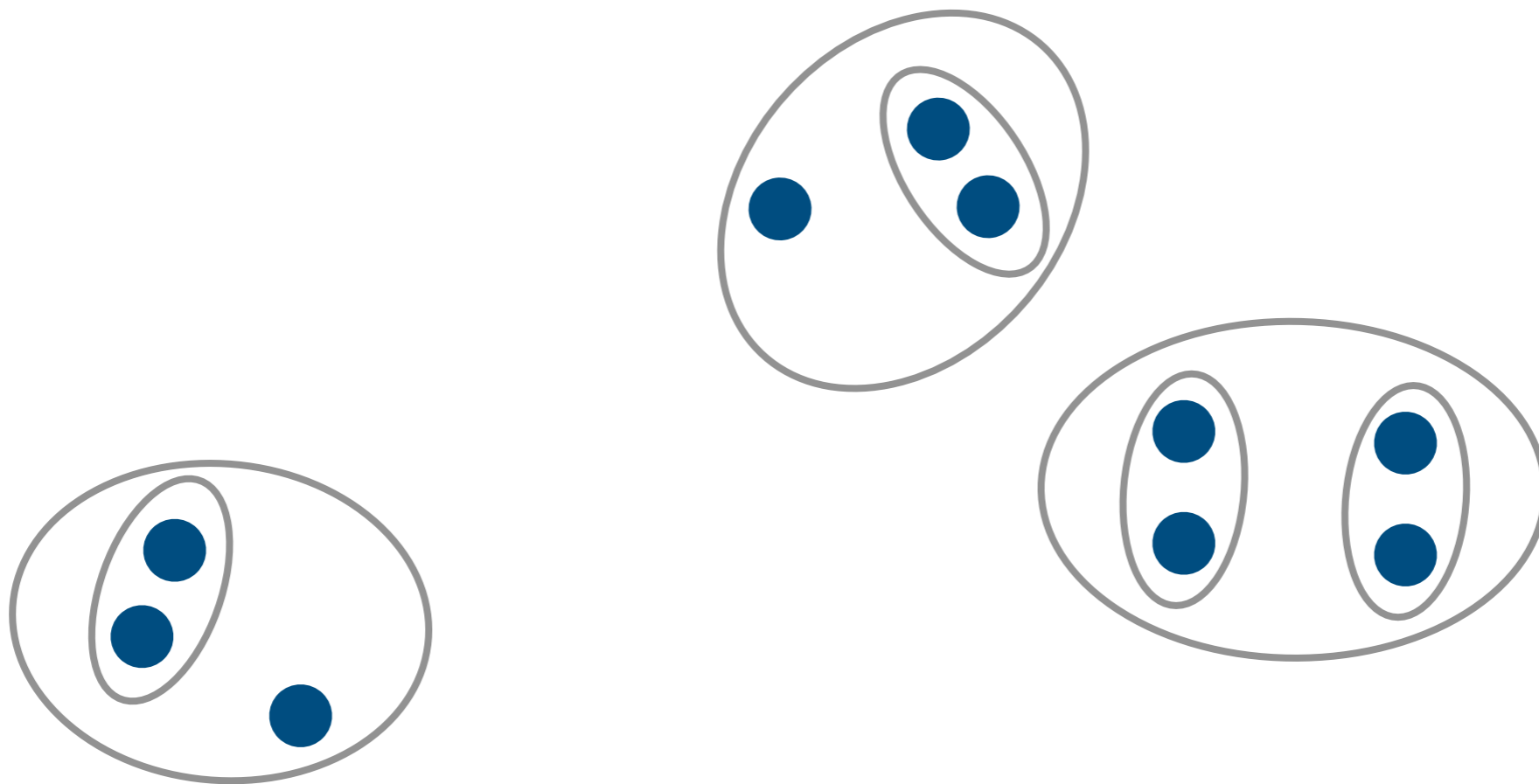
- **ward** minimizes the variance of the clusters being merged.
- **average** uses the average of the distances of each observation of the two sets.
- **complete** or maximum linkage uses the maximum distances between all observations of the two sets.
- **single** uses the minimum of the distances between all observations of the two sets.

# Configuration: when to stop?

option: `n_clusters` or `distance_threshold`

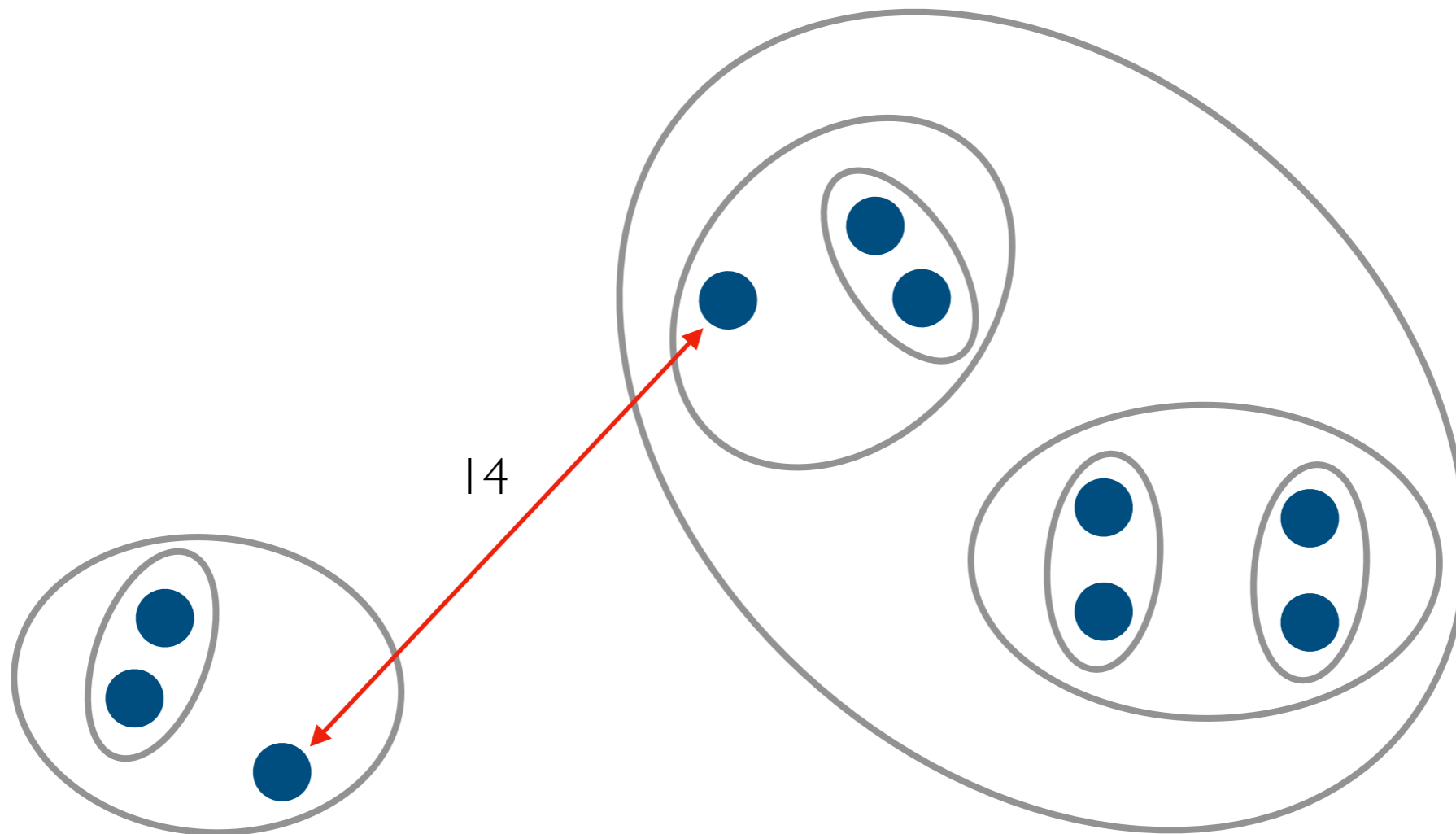
# Configuration: when to stop?

$n\_clusters=3$



# Configuration: when to stop?

distance\_threshold=10



# Configuration: when to stop?

distance\_threshold=0

