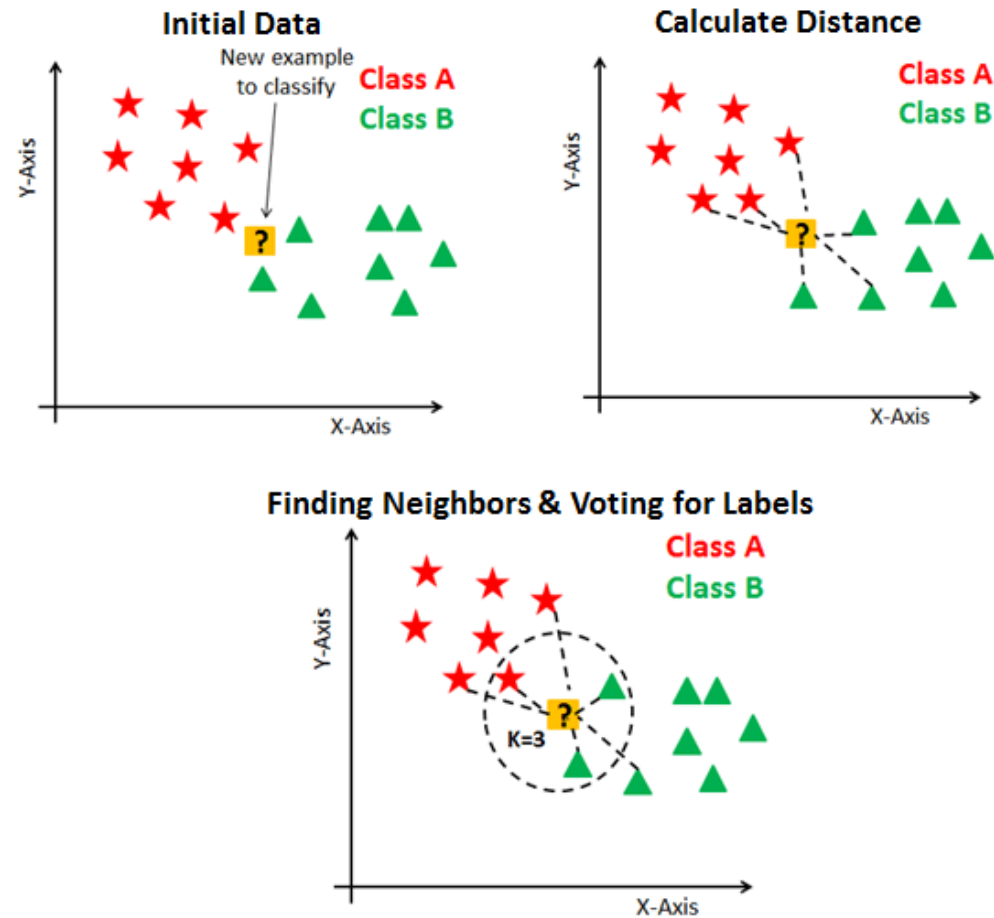
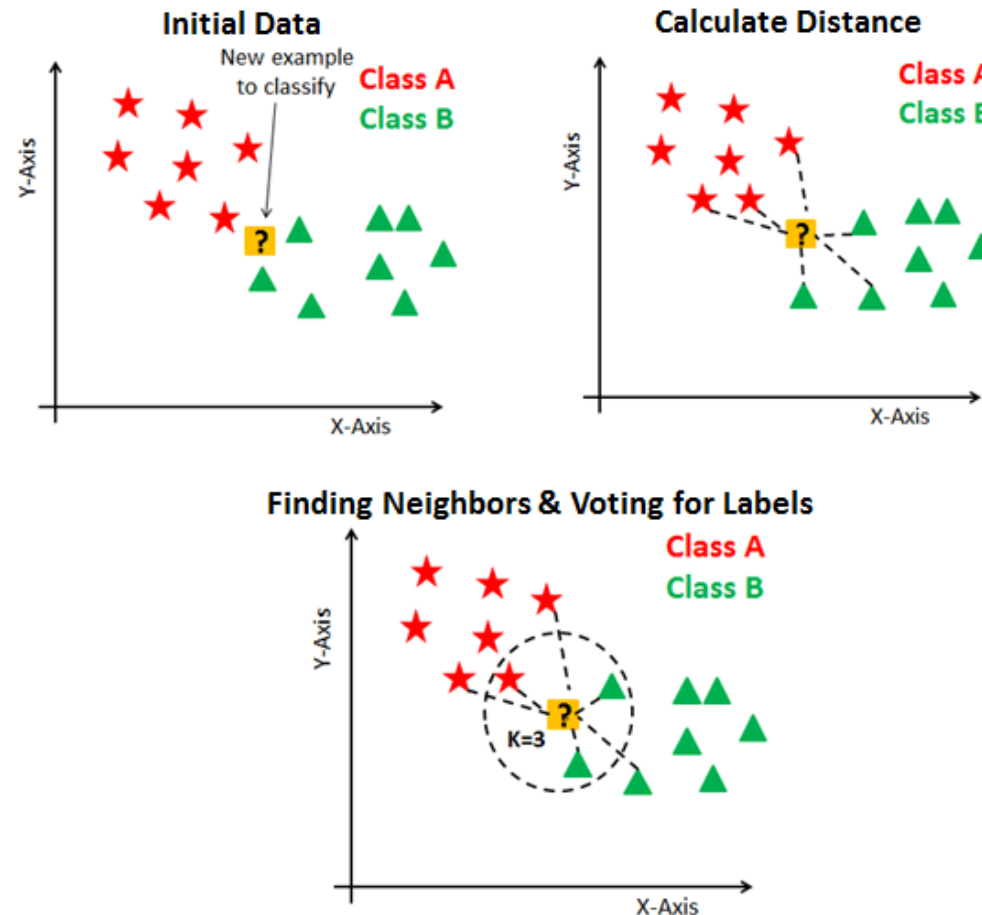


k-Nearest Neighbors (k-NN)

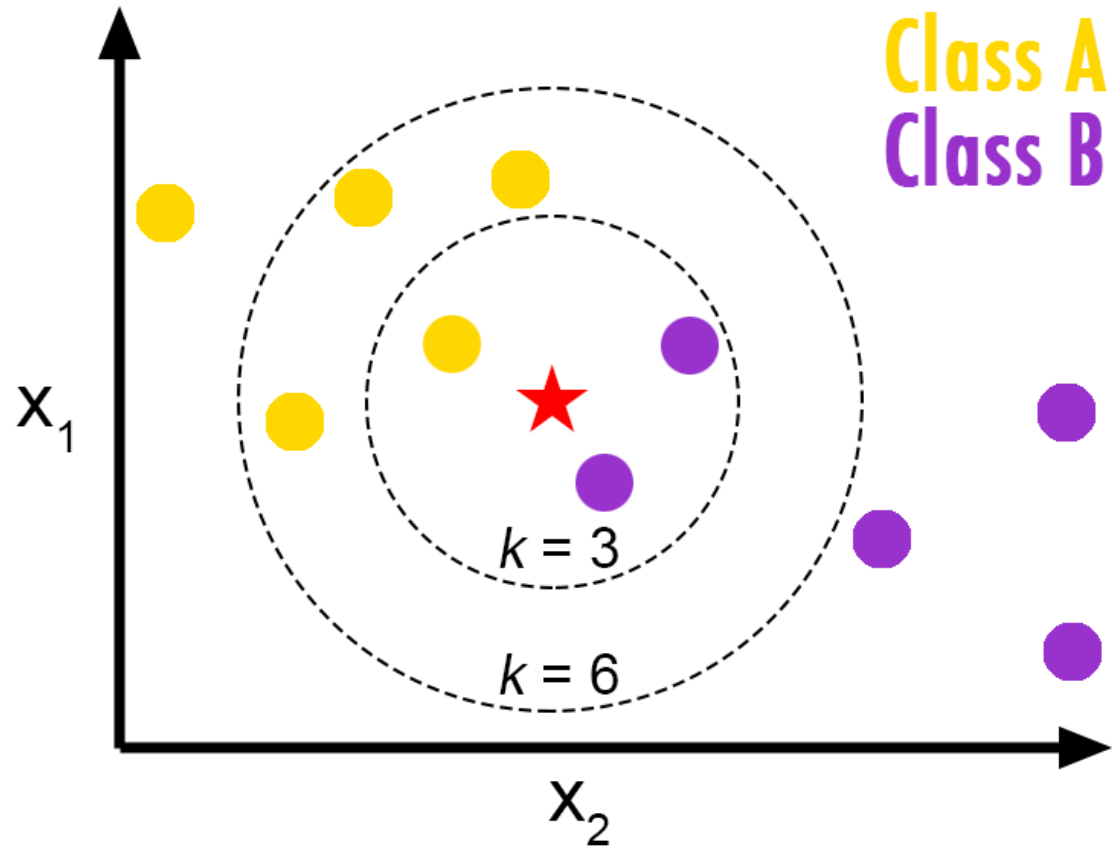
Algorithm



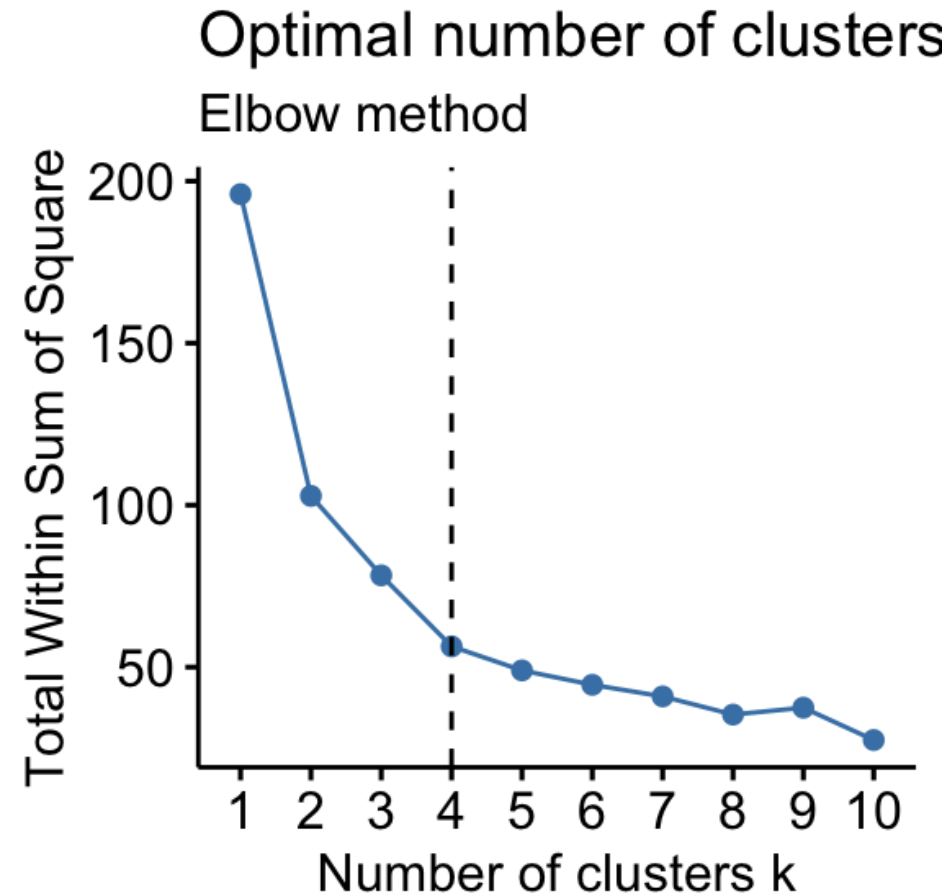
Lazy-learner vs Eager-learner



Effects of choosing diferente k values



Elbow method



Distance Functions

Distance functions

Euclidean

$$\sqrt{\sum_{i=1}^k (x_i - y_i)^2}$$

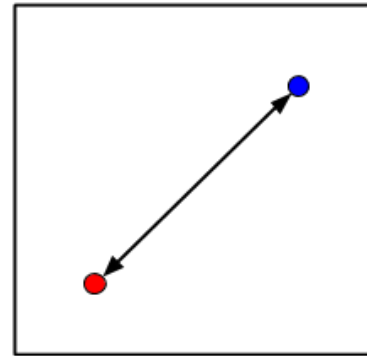
Manhattan

$$\sum_{i=1}^k |x_i - y_i|$$

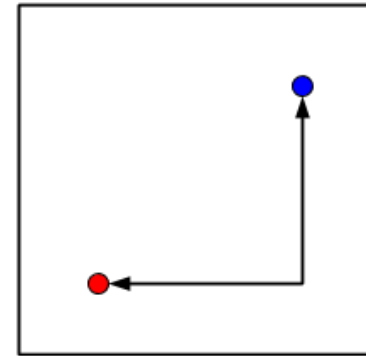
Minkowski

$$\left(\sum_{i=1}^k (|x_i - y_i|)^q \right)^{1/q}$$

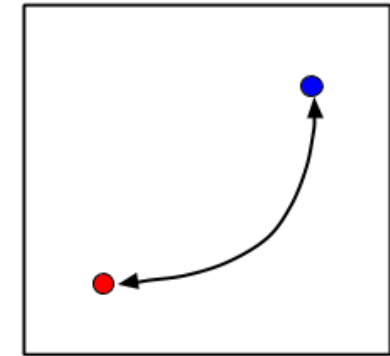
Euclidean



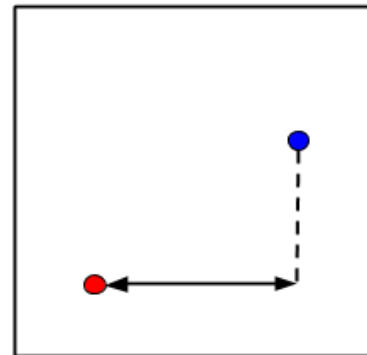
Manhattan



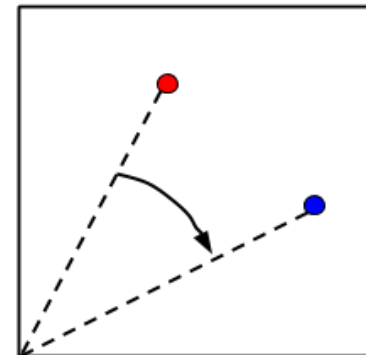
Minkowski



Chebychev



Cosine Similarity



Hamming



Extra

- Choose an odd k
- Online learning vs batch learning