k-nearest neighbor

# library link

https://github.com/scikit-learn/scikit-learn/blob/main/sklearn/linear\_model/\_base.py

# basic description

KNN is a kind of instance-based learning or lazy learning in which functions are only locally approximated and postponed until all calculations are classified. The k-NN algorithm belongs to the simplest machine learning algorithm.

Both classification and regression may be useful to weight the contribution of neighbors to contribute more to the average than distant neighbors. For example, the most common weight scheme is to give each neighbor a weight of 1/d when d is the distance to the neighbor.

<https://en.wikipedia.org/wiki/K-nearest_neighbors_algorithm>

# version

* NumPy >= 1.14.6 (pip install numpy)
* pandas >= 1.2.4 (pip install pandas)
* matplotlib == 3.22 (pip install matplotlib)
* sklearn == 1.0.2 (pip install sklearn)

# dataset

* Use sklearn built-in data (see homepage below)

<https://scikit-learn.org/stable/install.html>

# code description

* Using the KNeigbors Classifier module, the heart disease data provided by Sklearn changes the value of n\_neigbors from 1 to 11, indicating train accuracy and test accuracy.

# validation

* x