Algorithm KNeighbors Classifier:

Input: n training examples (X, Y) where X is a feature space of m features and Y – element of list of classes

k_num – number of the closest examples we want to use in the algorithm

x – an unclassified instance in m - feature space

Output: class of x

set $k \leftarrow K$

for each X in $range(n)$ find Euclidean distance:

$$D_E = \sqrt{\sum_{i}^{m} (X_i - x_i)^2}$$

sort X by D_E

for j in range(k):

find the most repeted class in X_j

if there is one

assign class to x

else:

do voting: $W(Y) = \sum_{i=1}^{p} \frac{1}{{D_E}^2(X_i, x)}$

where p - number of known class entries for which votes are calculated,

$W(Y)$ – voting value