

KNN-WSD

	Doc	Words	Class
Training	1	fish smoked fish	f
	2	fish line	f
	3	fish haul smoked	f
	4	guitar jazz line	g
Test	5	line guitar jazz jazz	?

$V = \{\text{fish, smoked, line, haul, guitar, jazz}\}$

Feature Vector

D no	label	x1	x2	x3	x4	x5	x6
1	F	2	1	0	0	0	0
2	F	1	0	1	0	0	0
3	F	1	1	0	1	0	0
4	G	0	0	1	0	1	1
5	?	0	0	1	0	1	2

Euclidean Distance

$$(x_1^t - x_1^q)^2 + (x_2^t - x_2^q)^2 + (x_3^t - x_3^q)^2 + (x_4^t - x_4^q)^2 + (x_5^t - x_5^q)^2 + (x_6^t - x_6^q)^2$$

Distance 1: 11 2: 6 3: 9 4: 1

When K=1, Label **G** corresponding the **4** will be selected as the sense