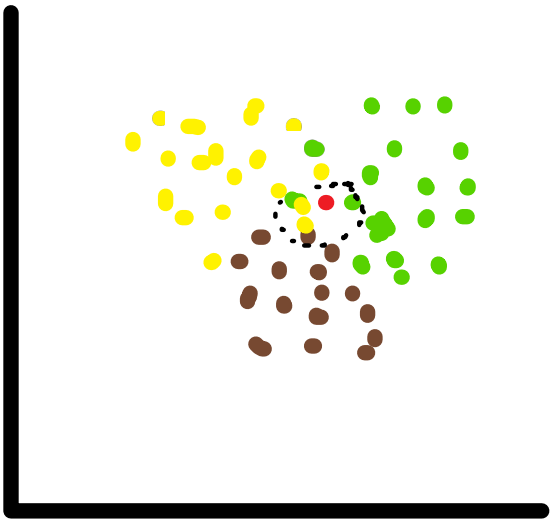
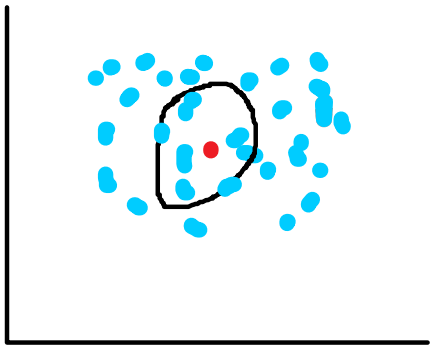
KNN Day 2

07 March 2022 07:08



k=5

Red → y = 2
g = 2
B = 1



k=7

1 - 30
2 - 40
3 - 35
4 - 45
5 - 38
6 - 42
7 - 86

} majority vote

for classification
majority vote

for Regression
mean value of nearest neighbors

	Age	salary	
a	25	30000	0
b	30	40000	
c	32	42000	
d	25	28000	
e	40	60000	1

$x_{min} = 25$ $\quad x' = x - x_{min}$ $\quad Min = \frac{25-25}{} = 0$

$x_{min} = 25$

$x_{max} = 40$

$$x_{norm} = \frac{x - x_{min}}{x_{max} - x_{min}}$$

$$Min = \frac{25 - 25}{40 - 25} = 0$$

$$Max = \frac{40 - 25}{40 - 25} = 1$$

$$B = \frac{30 - 25}{40 - 25} = 0.33$$

$$C = \frac{32 - 25}{40 - 25} = 0.46$$

$$ED = \sqrt{0.33^2 + 0.46^2} = 0.56$$

$$\sqrt{5^2 + 2^2} = \sqrt{29} = 5.$$

ID age wt weight ED.

0.47

0.87

3

5

0.21

6

0.38

9

9.1

1.6

$k = 5$

Sort:

0.21

0.38

0.47

0.87

1.6

Age

0-18

18-40

40-60

60-abv

	0-18	18-40	40-60	60-abv
1	0	1	0	0
2	0	0	0	1
3	1	0	0	0
4	0	0	1	0
5	1	0	0	0
6	0	1	0	0

hiii