

→ KNN:-

1) <u>weight (x₂)</u>	<u>Height (y₂)</u>	<u>class</u>	<u>distance (57, 170)</u>
51	167	underweight	6.708204
62	182	Normal	13.0
69	176	Normal	13.416408
64	173	Normal	7.615773
65	172	Normal	8.246211
56	174	underweight	4.123106
58	169	Normal	1.414214
57	173	Normal	3.0
55	170	Normal	2.0

$$\text{distance} = \sqrt{(57 - x_2)^2 + (170 - y_2)^2}$$

$$K = \sqrt{n} = \sqrt{9} = 3$$

<u>x₂</u>	<u>y₂</u>	<u>class</u>	<u>distance</u>
58	169	Normal	1.414214
55	170	Normal	2.0
57	173	Normal	3.0

<u>x₂</u>	<u>y₂</u>	<u>class</u>
57	170	Normal

December 2019						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Happiness lies in the joy of achievement and the thrill of creative effort. - Franklin D. Roosevelt

6 Friday

340-25 / Week 49



December 2019

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2) test sample (3,7) using 3-NN classifier

Acid Durability	strength	class	distance (3,7)
<u>x</u>	<u>y</u>		
7	7	Bad	4
7	4	Bad	5
3	4	Good	3
1	4	Good	3.605551

$$\text{distance} = \sqrt{(3-x)^2 + (7-y)^2}$$

$$K = 3$$

<u>x</u>	<u>y</u>	<u>class</u>	<u>distance</u>
3	4	good	3
1	4	good	3.605551
7	7	bad	4

\therefore

<u>x</u>	<u>y</u>	<u>class</u>
3	7	good

Success is simple. Do what's right, the right way, at the right time. - Arnold H. Glasow