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COM231

NO.:
DATE:

2. $d = \sqrt{(x_1 - 4)^2 + (x_2 - 6)^2}$

Distance to (4, 6)

$\sqrt{(1-4)^2 + (5-6)^2}$

$\sqrt{(9+1)} = 3.162$

$\sqrt{(2-4)^2 + (5.5-6)^2}$

$\sqrt{(4 + 0.25)} = 2.062$

$\sqrt{(3.0+4)^2 + (6-6)^2}$

$\sqrt{1} = 1$

$\sqrt{(4.5-4)^2 + (6-6)^2}$

$\sqrt{(0.25+1)} \approx 1.118$

$\sqrt{(5-4)^2 + (6.5-6)^2}$

$\sqrt{(1 + 0.25)} = 1.118$

$\sqrt{(5.5-4)^2 + (7-6)^2}$

$\sqrt{(2.25+1)} = 1.803$

$\sqrt{(6-4)^2 + (6-6)^2}$

$\sqrt{4} = 2$

$\sqrt{(7-4)^2 + (7-6)^2}$

$\sqrt{(9+1)} = 3.162$

$\sqrt{(8.4)^2 + (6-6)^2}$

$\sqrt{16} = 4$

$\sqrt{(9-4)^2 + (7.5-6)^2}$

$\sqrt{(25 + 2.25)} = 5.221$

2) find the 3 nearest neighbors the nearest there :-

1 student 3 - y = 0 distance 1.000
2 student 4 - y = 0 distance 1.118
3 student 5 - y = 1 distance 1.118

3.) majority vote
fail (0) : 2 student 3 and 4
pass (1) : 1 (student 5)

Prediction anew student who studied 4 hours and slept 6 hours will fail (0)

4.) 1 find Prediction : fail (0) for k = 3

2 if k 5 the five closest one student 3, 4, 5, 6, 7 → labels 0, 0, 1, 1, 1
Fail = 2 pass 3 - the prediction would change to pass