

In-class
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1(a) Sample = [9 8 9]

Pattern-1 = [10 2 10]

$$\text{distance-1} = \sqrt{[(10-9)^2 + (2-8)^2 + (10-9)^2]}$$

$$= \sqrt{1+36+1} = \sqrt{38} = 6.16$$

Pattern-2 = [10 7 10]

$$\text{distance-2} = \sqrt{[(10-9)^2 + (7-8)^2 + (10-10)^2]}$$

$$= \sqrt{1+1+1} = \sqrt{3} = 1.73$$

1(b) Sample = [9 8 9]

closest-pattern = [10 7 10]

Instruction = [10] [7 10]

$$[9 \ 8 \ 9] \Rightarrow [9] [8 \ 9]$$