# In-Class-12

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1. a)

|  |  |  |
| --- | --- | --- |
| Output | Weight | w\*d |
| 0.2 | 0.12 | 0.024 |
| 0.3 | 0.18 | 0.054 |
| 0.7 | 0.21 | 0.147 |
| 0.2 | 0.18 | 0.036 |
| 0.9 | 0.17 | 0.153 |
| 0.4 | 0.14 | 0.056 |
|  |  |  |
|  | Sum | 0.47 |

Weighted average = Sum (w\*d) = 0.47

b) Outputs – 0.2, 0.2, 0.3, 0.4, 0.7, 0.9

Median = (0.3 + 0.4) / 2 = 0.35

1. Set – (A, B, C, D)

m1 – A and B

m2 – A and C

m3 – A and D

m4 – B and C

m5 – B and D

m6 – C and D

1. a) d1 : A and B = 0.6

d2 : A and C = 0.7

d3 : B and C = 0.5

p1(A) = 0.6; p1(B) = 0.4

p2(A) = 0.7; p2(C) = 0.3

p3(B) = 0.5; p3(C) = 0.5

p(A) = p1(A) \* p2(A) = 0.6 \* 0.7 = 0.42

p(B) = p1(B) \* p3(B) = 0.4\* 0.5 = 0.2

p(C) = p2(C) \* P3(C) = 0.3 \* 0.5 = 0.15

b) Class A has highest probability, 0.42. Ensemble will classify the test sample as Class A

1. Total features = X = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

Features to be selected = N = 5

Number of base learners = 4

L1 feature set = {2, 4, 6, 8, 10}

L2 feature set = {1, 3, 5, 7, 9}

L3 feature set = {1, 4, 5, 8, 10}

L4 feature set = {2, 2, 6, 7, 9}