

CS540 Section 3 HW3 02/24/2015

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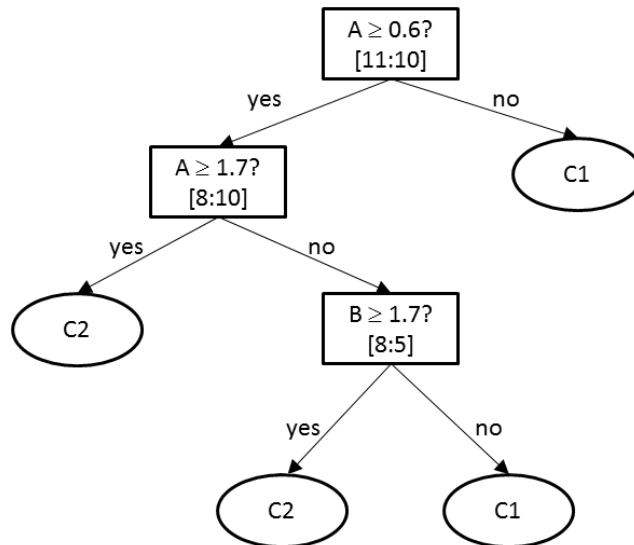
P2.

(a)

A	B	class	classification result
1.55	2.2	C2	C1
0.5	1.4	C1	C1
1.8	0.99	C1	C2
1.6	1.8	C2	C1
1.4	1.5	C1	C1

Classification accuracy = $2/5 = 40\%$

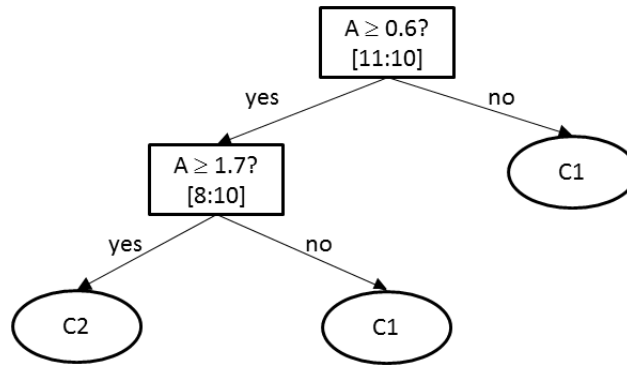
(b) i. Remove the bottom internal node



A	B	class	classification result
1.55	2.2	C2	C2
0.5	1.4	C1	C1
1.8	0.99	C1	C2
1.6	1.8	C2	C2
1.4	1.5	C1	C1

Classification accuracy = $4/5 = 80\%$

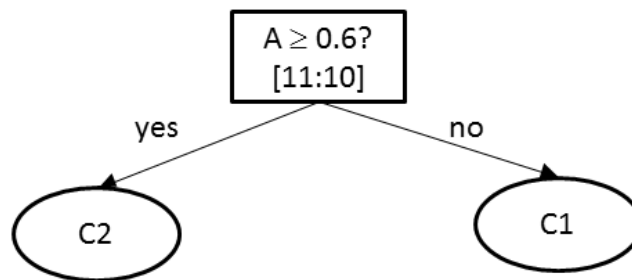
ii. Remove the $B \geq 1.7$? internal node



A	B	class	classification result
1.55	2.2	C2	C1
0.5	1.4	C1	C1
1.8	0.99	C1	C2
1.6	1.8	C2	C1
1.4	1.5	C1	C1

Classification accuracy = $2/5 = 40\%$

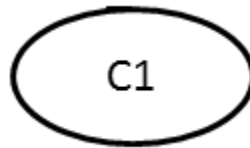
iii. Remove the $A \geq 1.7$? internal node



A	B	class	classification result
1.55	2.2	C2	C2
0.5	1.4	C1	C1
1.8	0.99	C1	C2
1.6	1.8	C2	C2
1.4	1.5	C1	C2

Classification accuracy = $3/5 = 60\%$

iv. Remove the root node



A	B	class	classification result
1.55	2.2	C2	C1
0.5	1.4	C1	C1
1.8	0.99	C1	C1
1.6	1.8	C2	C1
1.4	1.5	C1	C1

Classification accuracy = $3/5 = 60\%$

(c). The bottom internal node($A \geq 1.5?$) should be pruned first.

