

Hutson zhan  
20457526

a.  $r=100$

←	←	N	848.164	732.654	10
↑	↖	←	732.654	642.803	506.906
↑	↑	←	633.494	563.321	494.401

b.  $r=-3$

2.82	7.33	10
3.20	5.25	7.33
1.91	3.41	5.04

→	→	N
→	↘	↑
→	↑	↑

C.  $r=0$

6.24	7.34	10
4.37	5.34	7.34
2.71	3.84	5.06

$\rightarrow$	$\rightarrow$	N
$\uparrow$	$\uparrow$	$\uparrow$
$\uparrow$	$\uparrow$	$\uparrow$

d.  $r=3$

9.2	1.22	24.56	19.88	10
7.2	1.22	19.88	16.27	12.55
5.2	1.22	15.91	13.08	10.49

$\leftarrow$	$\leftrightarrow$	N
$\uparrow$	$\uparrow$	$\leftarrow$
$\uparrow$	$\uparrow$	$\leftarrow$

	N	C	J
N	73,25	57,42	66,32
C	80,26	35,12	32,54
J	28,27	63,31	54,29

⇓

	N	C	J
N		57,42	66,32
C		35,12	32,54
J		63,31	54,29

⇓

	N	C	J
N		57,42	66,32
C			
J		63,31	54,29

⇓

	N	C	J
N		57,42	
C			
J		63,31	

⇓

N      N      C      J

C

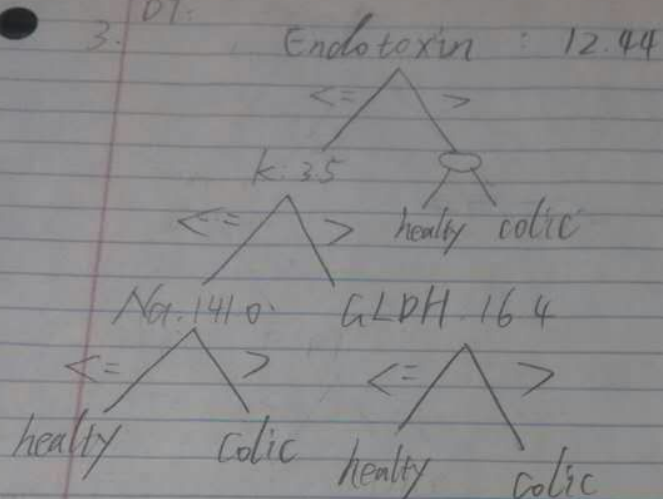
J      63, 31

And  $(J, C)$  is a pure NE

$$V_1(J, C) = \max \begin{cases} V_1(N, C) \\ V_1(C, C) \\ V_1(J, C) \end{cases}$$

$$V_2(J, C) = \max \begin{cases} V_2(J, N) \\ V_2(J, C) \\ V_2(J, J) \end{cases}$$

3. DT:



2. right answer. 12

total : 13

accuracy: 0.923077

4. 132

5. 12

6 Calculate information gain for each attributes.  
then compare those IG. choose the attribute  
that contain the largest IG as the root, then  
split those examples use threshold value  
then repeat the step above.