# Decision Tree assignment:	Dona Propo
Outlook (y(a)/N(s))	Wind (4(9)/N(5))
	Wak(y(6)/N(2)) Strong (y(3)/N(3))
Sunny (y(2)/N(3)) over(ast (y(4))N(0)) Rain (y(3))N(2)	
-noine Pure	hain = (entropy (9,5),[8/14, 6/14], [entropy (6,2), e(3,3))
Using the function for gain & entropy provided in the July ser notebook, and doing calculations,	= 0.07
Julyten notebook, and dring calculations,	Now, the outlook is the root node, as these as is
hain=(entropy(915), [5]14, 4/14, 5/14], (entropy (2/3), entropy (3/2)])	
(3(2))	For the root node, Sunny,
- 6.24	
	Temp. (y(2)/N(3))
Temp. (y(g)/N/s))	
V V	Ho+(012) Mild(1/1) (001(1/6)
Het(y(2)/N(2) mid(y(4)/N(2)) (00)(y(3)/N(1))	
Jain = (entropy (915), [4/14), 6/14, 4/14], [entropy (2,2),	Gain = (entropy(2,3), (2/5,2/5,1/5), [0, e(1,1), 6]
entropy(4,2), entropy (3,1)]	= -0.05.
= 0.03	- 0 02
Humidity (915)	Humidity (213)
Haraca (317)	1
111. (((2) - (1))	
High(y(3)/N(4) Normal (y(6)/N(±))	High(6/3) Normal(2,0)
gain= (contray (365), [7114, 7114], [8(3,4), 8(61)]	
: 0.15	hain=(entropy (2,3),[315,215], [0,0])
	=0.94
	Since, the gain is man in humidity, the second roo-
	Since, the gain is man in humidity, the second roo- node becomes "Sunny"?

Page	2000 Props
Now, for Rain,	Hence to a Marketine transit has a late to
Temp (3/2)	Hence, the final decision tree is presented below:
	outlook (9(9)1N(5))
Hot(010) mid(211) (co)(111)	
······································	
Gain- (entropy (3,2), [315,2/5], [entropy (2,1), entropy (1,1)]	Sunny (y12TIN(3)) Overlast (y14)IN(0)) Rain(By(3))
=0.01	170(2)
11 (51)	Humlary (y(2)/N(3)) wind (y(3)/N(2))
Humidity (312)	(1)
High(1,1) Normal (2,1)	High(y(0)(N/3)) Normal (y(2)(N(0)) Weak(y(3))(N(0)) Strung
	Highly(0)(N(3)) Normal (y(2)(N(0)) Weak(y(3))(N(0)) Strong
Gain: (pntropy (3,2), [2/5, 3/5], (entropy (1,1), entropy	
(2,1)	
= 0.01	
Wind (312)	
,/ \	
weak (3/6) Strong (0/2)	
V	
Gain = (entropy (312), [315, 215], [0,0])	
= 0.97	
Therefore, the wind is the root node for this	
case as it has the manimum value.	
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