	U	Collection of the Collection o		-9	
	y-ac				
S·No	out look	temferature	Humidity	windy	Play
	Sunny	Ho+	1412h	weak	No
2	Sunny	Hot	4:24	strong	No
3	overCast	Hot	14:24	weak	yes
4	Rajny	mild	14:2h	Weak	Yes
9.	Rainy	Cool	normal	weak	Yes
6	Rainy	Cool	normal	Strong	No
7	overCost		normal	Strong	Yes
8	Sunny	mild	NE;H	weak	No
9	Sunny	Cool	Lowron	Weak	Yes
70	Rainy		normal	weak	Yes
)l	Sunny		normal	Strong	Yes
12	overCast	- mild	141:2h	strong	· yes
13	over cons	+ 40+	normal	weak	Yes
14	Rainy		High	Strong	No
- D = A	₩ N =	5 + to	tal = 14		
* 1 = 2		. , ,			
* Entropy:	= -P 10 P+n.	32 (P+n)	- N /0	32(N)	A ₁
* Entropy Co	5)= -9	-10/2 (9+5	9+5	0 12 (5)	= 0.940
* for each	n attributa	= (out 100	K)6	Long Et L	
ALC: A CONTRACT OF THE PROPERTY OF THE PROPERT	E entropy			unny, Rain	y, overlast

	19
4	ne
_	

(outlook)	Play tennis	out/ook	Play. Tennis	Contlook	ping tennis	
Sunny	No	Rainy	yes	over Cost	yes /	
Sunny	no	Rainy	Yes	ovelast	yes	
sunny	No	Rainy	No	ovelCast	yes	
Sunny	yes	Rainy	ye8	over Const	yes	
Sunny	yes	Rainy	No			

LEAD AND AND AND AND AND AND AND AND AND A	sunny 2 3 0.971 Rainy 3 2 0.971	outlook	P	n	Entropy

*2-entropy=
$$\frac{-3}{5}$$
 *1092($\frac{3}{5}$) = $\frac{2}{5}$ *1092($\frac{2}{5}$) = $\frac{0.971}{5}$

* A verage information Entropy=

Prainy + nrainy Entropy (out)ook = Rainy) +

Pover + nover Fritropy Contlook - mines

(outlook)=	3+2	* 0.971 + 2+3 9+6	42.071, 4+0	×0-0.697
1	9+5	9+5	9+5	#

+ Gain = Entropy(s) - I (attribute)

entropy (5)= 0.940

gain=0.940-0.693-0.247

PIM	Temp	Play	Temp	Play
No	mild	Yes	Cool	Yes
No	mild	no	Cool	no
Yes	mild	Yes	Col	yes
Yes	mild	Yes	- Cool -	Yes
	No No Yes	No mild No mild Yes mild Yes mild	No mild yes No mild no Yes mild yes Yes mild yes	No mild yes Cool Yes mild yes Cool Yes mild yes Cool mild yes Cool mild yes Cool mild yes

Temperature	P	/ n	entropy	
Hot	2	2	 	
Mild	4	2	0.918	
Cool	3		0.811	

*I(temferature) = Phot + Mhot entropy(hot) +

Pmild+nmild entropy (teml=mild) + Pcool+ncool entropy (Cool)
P+n

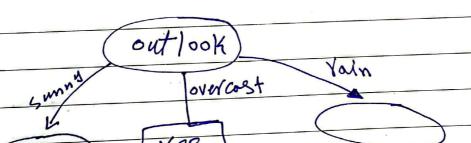
*ICtanf)= 2+2 *1 + 4+2 *0.918 + 3+1 *0.811 => 0.911

				4		345	1400
Jain = 0.940 - 0.911 = 0.029 Humiolity > high inormal Hum Play Hum Play Hum Play Ho Yes Yes Yes Yes Yes No	bain =	ent you	4(5)	-I(att	ribute)	THE STATE OF THE S	
Humiolity > high (normal) Hum Play Hum Play Hum Play No Yes Yes Yes Yes Yes No No Yes No					7		
Hum Play Hum Play No No Yes Yes Yes Yes No No Yes No No Yes No Yes No No Yes No No Yes No No No No No No No No No N	9-0111 =	0,340 -	0, 11	#			
Hum Play Hum Play No No Yes Yes Yes Yes No No Yes No No Yes No Yes No No Yes No No Yes No No No No No No No No No N	Humid	ity -> his	sh in	mal			,
Anomal yes $\frac{1}{2}$ 1	Hum	Play		Hum	Play		7649
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		1.10 1 0	337	The state of	No		C
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	~	165		~ /	1		
m p n entropy 3 4 0.985 mad 6 1 0.591 verale $T = \frac{3+4}{9+5} \times 0.985 + \frac{6+1}{9+5} \times 0.591 = 0.786$				~/ .			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							
$ \frac{1}{1} \frac{1}{1} \frac{3+4}{2} \frac{3+4}{2} \frac{3+4}{2} \frac{3+5}{2} \frac{6+1}{2+5} \frac{3+5}{2+5} $	m	P	n.	ent	ropy		
$ \frac{1}{1} \frac{1}{1} \frac{3+4}{2} \frac{3+4}{2} \frac{3+4}{2} \frac{3+5}{2} \frac{6+1}{2+5} \frac{3+5}{2+5} $	igh	3	4	0.0	85		
$Verage = I = \frac{3+4}{9+5} \times 0.985 + \frac{6+1}{9+5} \times 0.591 = 0.782$		6		0.59	1		
	veral	e T =	3+4	*0.985	+ 6+1	40.601	- 2709
un = 0.940 - 0.788 = 0152		A Comment	9+5	Table	9+5	70.31	#
# # # # # # # # # # # # # # # # # # #	ain -	0,940-	0.78	8=016	2		
No. of the second secon	VIII -	the same laws	elany	#			· · · · · · · · · · · · · · · · · · ·
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J	Windy	-> <+	YOU G	Weo	14
	AAIIIA		1 . 0		-,-

Windy	P	M	entropy
strong	3	3	
weak	6	2	0.811

*Average =
$$I = \frac{3+3}{9+5} \times 1 + \frac{6+2}{9+5} \times 0.811 = 0.892$$



		(B)		
* out 100K	Taml	Hum	Windy	play
Sunny	Hot	Hi.3M	Weak	No
~	Hot	Profit Silver	strong	No
~	mild	~	Weak	No
~	Cool	normal	N	108
~	mild		Strong	Yes
*P= 2	* N=3	* Tota	1/= 5	s Andrews
* entropy (su	mny = -8	10/2 (2	$\frac{3}{2+3} / 0 \sqrt{2}$	(3)=0.97/
· Humidity ->	high (no	Lon		
Hum P	In	entropy !	The first a gold of	· + 22 / 2 / 1/
high		,	*I = 0	
normal 2	3	×	Jain= 0.97	11
Thormas 2		0	7	
Windy				·
W	indy P	In 1	entropy	3
			W111073	Z= 0.951
	trong 1		-	#
	leak 1	2	0.918	Jain-0.020
70010				#
Temperature	Temp	PIN		
	Teems	PIN	entropy	
I=0.4	Cool.			
	mild	0 2		
min = 0.57/	mild			
			1	-

Attributes Jain * Highest Jain -Temperature -> 0.571 Humidity -> 0.071 *next node = Humidity windy -> 0.02 outlook over cost Humidity hum Windy Play outlook Temp Rainy mild high weak norma ~ Strong no mild ~ high strong no *P=3 *n=2 *total=5 * entropy (Rainy) = 0.971

		_	-	
1		7		1
	_	4	•	1
		0	1	/
1	-	_		wine.

	. 1				. 1	
4	\coprod_{1}	IM	in	1+	y	-
*	י ק	(m	10	11	U	

Hum	P	/n	entropy	× 7=0.951
wish /		1.		
normal	2	1 i)	0.918	* gain = 0.020

attribute)	P	n	entropy
strong	0	2	0
Weath	3		0
	strong		strong o 2

1	

* Temperature.	attributé	P	/ n	[entropy]
*I=0.951	Cool			
- gain = 0.020	mild	2	+	0.918

* highlst	Jain -> Hum = 0.0.2
	Windy = 0.971

*next nocle => Windy

