

	Page No.	1	2.		age No.			
	Given	dataset ;	-) your 1-loo) = nother	90.51) 9			
6	Day	01 - 110	ent they be	D = Dristary	Trans 1	101 0 101		
	Day	Outlook	Temperature		Wind	Play Golf		
6	.02 313 -	Sunny	Hotal	High	False	Ho		
6	4010 75	Sunny =	HOH	High W	Trye	No		
•	3	Overcast	HOH	High	False	Yes		
	8.4 - 618	Rain	Mild	High	False	Yes		
	1.5 = 21	Rain M	Cool o vol	Norway	False	Yes		
	6	Rain	cool	Normal	True	No		
	7	overcast	Cool	Mormal	True	Yes		
	1) 8 15 Wto.	Sunny	Mild 2001	High X	False	No		
	9, 3001	Sunny	. Coolling	Normal	False	Yesø		
9	10	Rain	MiH	Normal	False	Yes		
•	T)	Sunny	y Mild look y	Normal	True	Yes		
6	12	Overcast	Mild	High	True	yes		
(0.333	8813.0 X 8	overcast	.OHOF ("20)	Normal	False	Yes		
•	14	Rain xoo.	o Mild	High	True	No		
•).9 Y g.	Criven data Sample:-						
•	(Outlook =	(Outlook = sunny, Temperature = Cool, Humidity = High, wind						
•	0347001 = 34711 7777							
6	* Step:	a : (101)41/(1)	:- P(X	34cp 4			
6								
6	1129V"-PIC): P(Plan	1-401f = "Y	es") = 9/10	= 0.64	3		
	P(Ci): P(Play Golf = "Yes!") = 9/14 = 0.643							
	2500 1017 0017 -0 17 17 17							
	Step 2: Compute P(X/Ci) for each class							
0	1							
	P(Outlook = Sunny play Golf = "Yes") = 2/9 = 0.22							
	P(Outlook = Sunny Play 01013 - 13) - 3/0 = 0.6							
	P(outlook = Sunny Play Golf = "No") = 3/5 = 0.							
December, K belongs de Class / " Play Colf = 1 p")								
•								

ı

A

Page No. PER PER 2 P (Temperature = cool play Golf = "Yes") = 3/9 = 0.333 P (Temperature = cool | Play Golf = "No") = 1/5 = 0.2 P(Humidity = High | play Golf = "yes") = 3/9 = 0.333 P (Humidity = High | play Gdf = "No") = 415 = 0-8 P(Wind = Trye | Play Golf = "Yes") = 3/9 = 0.333 P (wind = True / Play Golf = "No") = 3/5 = 0.6 Step 3: - X = Outlook = Sunny, Temprerature = Cool, Humidity = High, Wind = True P(X |Ci): P(X | Play Golf = "Yes") P(X/Play Golf = "Yes") = 0.222 X 0.333 X 0.333 X 0.333 = 0.0082 P(X) Play Golf = "No") = 0.6 x 0.2 x 0.8 x 0.6 out lein = white could bob = oculo = 20:05 7000 = 2001 Step 4: - P(x1c;) *P(c;): 01918 *

p(x) play Golf = "Yes") * p(play Golf = "Yes")

 $= 0.0082 \times 0.643 = 0.0052$

P(X | Play Golf ="No") * P(Play Golf = "No")

= 0.057 + 0.357 = 0.0203

Therefore, X belongs to Class (" Play Golf = NO")

	Page No. Deto
(2.)	Decision Tree
	Decision tree is a supervised learning algorithm which is used for both Classification and regression. It uses a tree-like model of decisions, where each internal node denotes a test on an attribute, each branch represents an outcome of the test and each leaf node (terminal node) holds a class label. The topmost node in a tree is the root node.
• 450 val	It consists of a set of rules for dividing tag large heterogenous population into smaller groups with respect to
● ol1	the target label, the algorithm used for this tree construction is recursive
Vcl.	partitioning. It flow follows top-down approach.
6 294	relation to rest
04	Fairs (col : V = Mount 1 1 Tank 1 1 2
231	V
	Decision tree terminologies are given
258	Below !- bearall 100 - record
0	· Root Node: - It is the topmost
(law	node in decision tree, curich
6 204	represent entire population.
@ 6M	TO HET THE WIND TO STATE OF THE PARTY OF THE
•	· Spliting: - 9t is a process, which
0	Q

E.	<u>DID</u>
-	Page No.
	Date

Page No.
Date

divide samples.

- Decision Node: 9+ is special type of node, which splits node into furture sub node:
- Leaf/Terminal Node: 9+ is a last 'Stage of node of decision tree, which' holds a class label.
- because it reduce size of tree.

Example of Decision Tree

-1				The state of the s	
	Owlook	Temperature	Humidity	Wind ,	Play Golf
	Sunny	Hot	High	False	NO O
	Sunny	Hot	High	True	No O
	Overcast.	10 Ho Hanglin	High	False	yes -
-	Rain	Mild	High .	False	yes -
	Rain	Cool	Normal	False	Yes O
	Rain	Cool	Normal	Trye	No C
	overcost	Cool ST	Normal	True	yes O
1	Synny	Mild	High	Folse	No
	Synny .	Cool	Normal	False	Yes (
1	Rain .	Mild	Normal	False	yes C
	Synny	Mild	Normal	+True	Yes ?
	overcast	mild	High	Toue	Yes C
	overcast.	Hot	Normal	False	Yes (
		mild	High	Toue	No C
	Rain	1110	I have	Spire .	
	N 1 () 1 3 ()	A SAME			

