Nama : Ilyas Kurnia Ramadhan

NIM : A11.2020.13011

Kelas : A11.4612

a. Rumus Entropy:

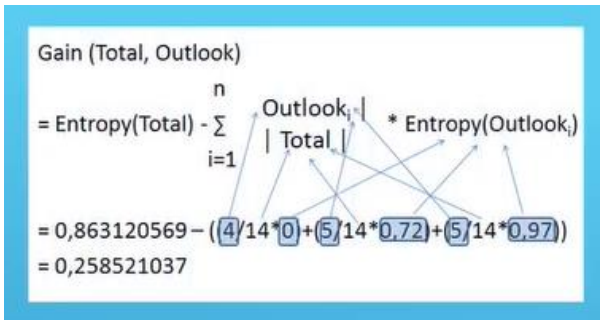
$$Entropy(S) = \sum_{i=1}^{c} - p_i \log_2 p_i$$

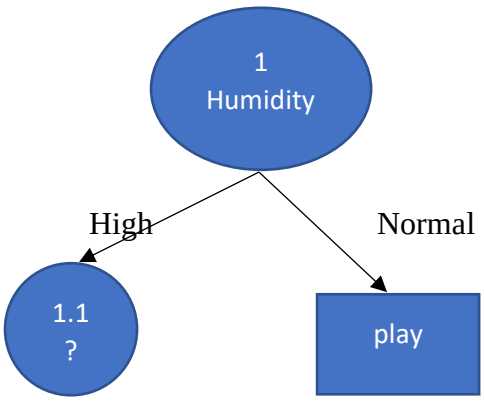
b. Rumus Gain:

$$Gain(S, A) = Entropy(S) - \sum_{v \in Values(A)} \frac{|S_v|}{|S|} Entropy(S,$$

Perhitungan NODE 1

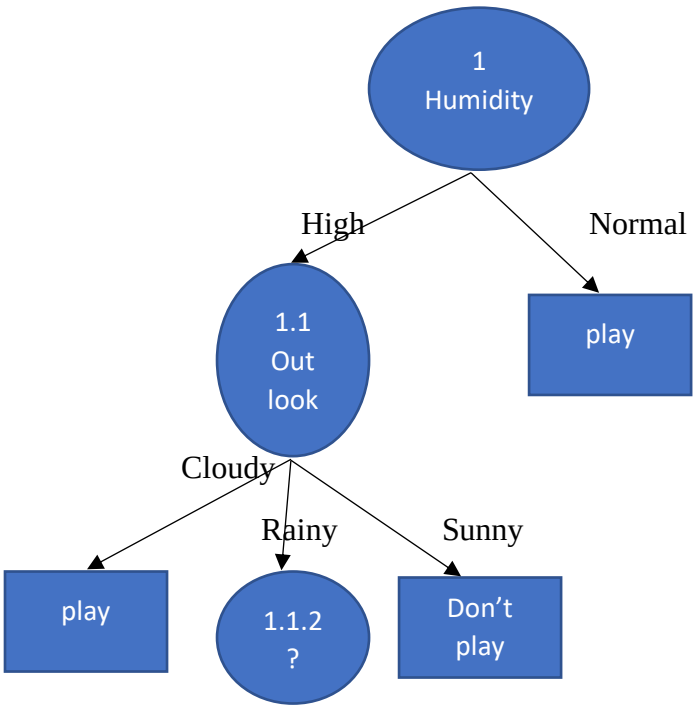
		Jml kasus(S)	Dont Play (S1)	Play (S2)	Entropy	Gain
total		14	4	10	0.863120569	
outlook						0.258521037
	cloudy	4	0	4	0	
	rainy	5	1	4	0.721928095	
	sunny	5	3	2	0.970950594	
temp						0.183850925
	cool	4	0	4	0	
	hot	4	2	2	1	
	mild	6	2	4	0.918295834	
humidity						0.370506501
	high	7	4	3	0.985228136	
	normal	7	0	7	0	
windy						0.005977711
	No	8	2	6	0.811278124	
	Yes	6	4	2	0.918295834	





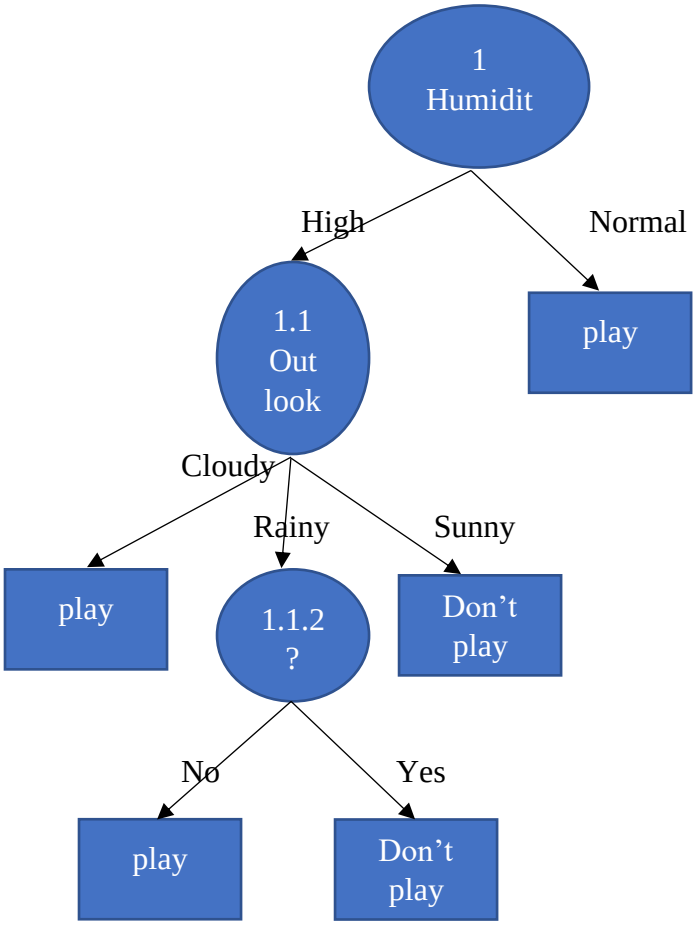
Perhitungan NODE 1.1

		Jml kasus(S)	Dont Play (S1)	Play (S2)	Entropy	Gain
Humidity High		7	4	3	0.985228136	
outlook						0.69951385
	cloudy	2	0	2	0	
	rainy	2	1	1	1	
	sunny	3	3	0	0	
temp						0.020244207
	cool	0	0	0	0	
	hot	3	2	1	0.918295834	
	mild	4	2	2	1	
windy						0.020244207
	No	4	2	2	1	
	Yes	3	2	1	0.918295834	



Perhitungan NODE 1.1.2

Node 1.1.2		**Jml kasus(S)**	**Dont Play (S1)**	**Play (S2)**	**Entropy**	**Gain**
Humidity High and Outlook Rainy		2	1	1	1	
temp						0
	cool	0	0	0	0	
	hot	0	0	0	0	
	mild	2	1	1	1	
windy						1
	No	1	0	1	0	
	Yes	1	1	0	0	



Latihan Soal (Kuis)

2. Kerjakan latihan tahapan klasifikasi dengan Decision Tree pada latihan sebelumnya, dataset bisa diganti / dimodifikasi, simpan dalam ***decisiontree.py*** atau ***decisiontree.ipynb***, repositorikan file pada **github.com** dan kirimkan URL github melalui Assignment pada kulino (Pada blok Minggu ke-7).

Link Github : https://github.com/ilyasskurnia/Datamining-2022/tree/main/tugas-minggu7