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Kelas : Kecerdasan buatan IF02-03

## Entropi

IPK	Iya	Tidak	total	Entropi
Rendah	0	2	2	0
Cukup	1	3	4	0.811
Tinggi	2	2	4	1
Total	3	7	10	0.724

## Entropi :

- rendah :  $(-0/2 \log_2 0/2) + (-2/2 \log_2 2/2) = 0$
- Cukup :  $(-1/4 \log_2 1/4) + (-3/4 \log_2 3/4) = 0.811$
- tinggi :  $(-2/4 \log_2 2/4) + (-2/4 \log_2 2/4) = 1$

## Entropi IPK :

$$\begin{aligned} W &= (2/10 \times 0) + (4/10 \times 0.811) + (4/10 \times 1) \\ &= 0.724 \end{aligned}$$

TAK	Iya	Tidak	total	Entropi
rendah	0	2	2	0
cukup	1	5	6	0.65
baik	2	0	2	0
total	3	7	10	0.39

## Entropi

$$\text{- rendah : } (-0/2 \log_2 0/2) + (-4/2 \log_2 4/2) \\ = 0$$

$$\text{- cukup : } (-1/6 \log_2 1/6) + (-5/6 \log_2 5/6) \\ = 0.65$$

$$\text{- baik : } (-2/2 \log_2 2/2) + (-0/2 \log_2 0/2) \\ = 0$$

## Entropi TAK :

$$W = (2/10 \times 0) + (6/10 \times 0.65) + (2/10 \times 0) \\ = 0.39$$

## Entropi Decision

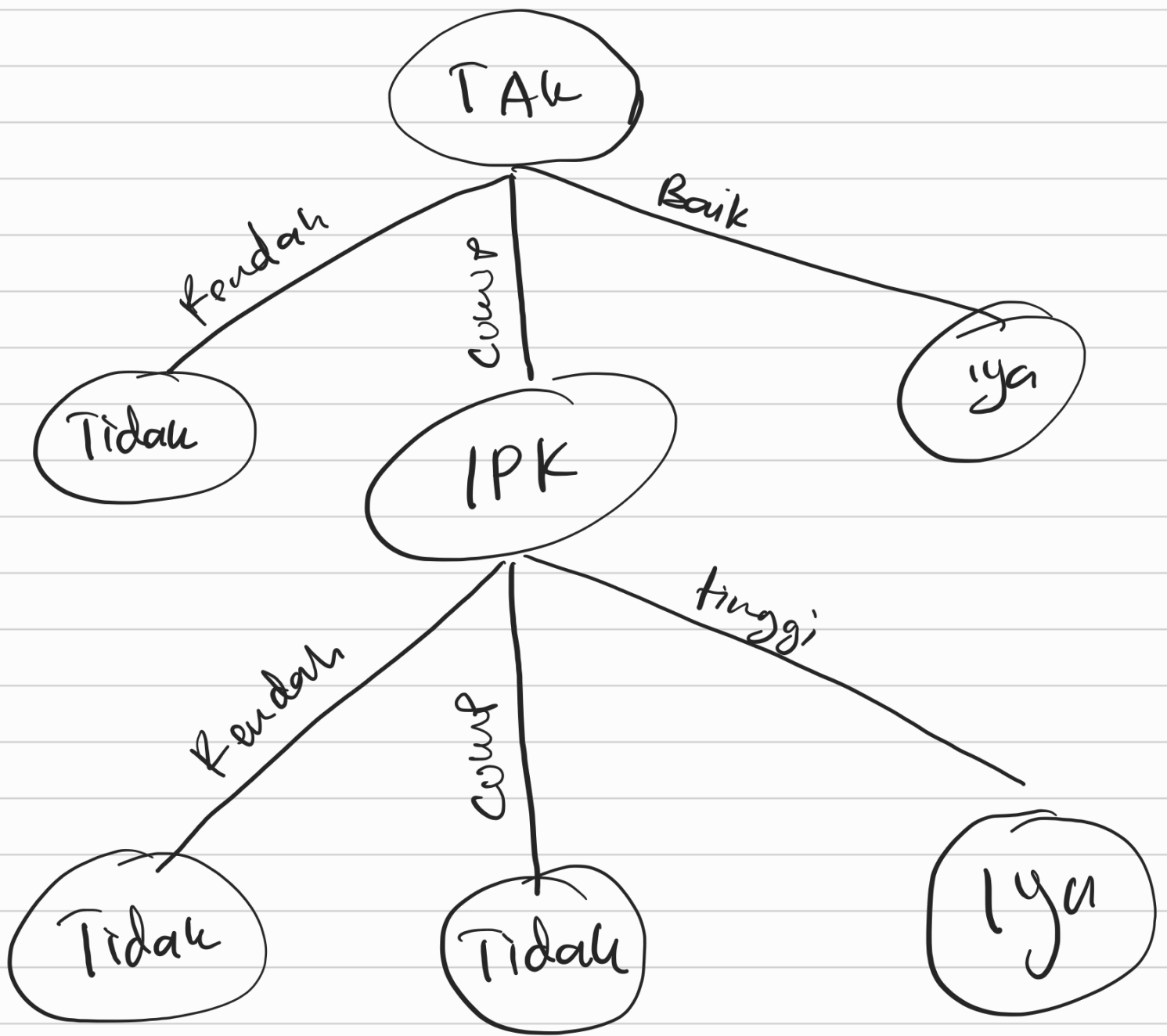
$$(-3/10 \log_2 3/10) + (-7/10 \log_2 7/10) \\ = 0.881$$

## Information gain

$$E(\text{decision}) - E(\text{IPK}) \\ 16 = 0.881 - 0.724 \\ = 0.157$$

$$E(\text{decision}) - E(\text{TAK}) \\ 16 = 0.881 - 0.39 \\ = 0.491$$

Mengadikan TAK sebagai root.



Jadi

ayo akan menjadi sukses sedangkan adi tidak.