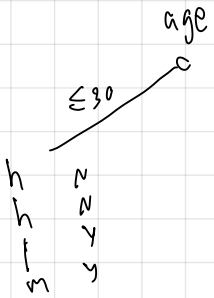
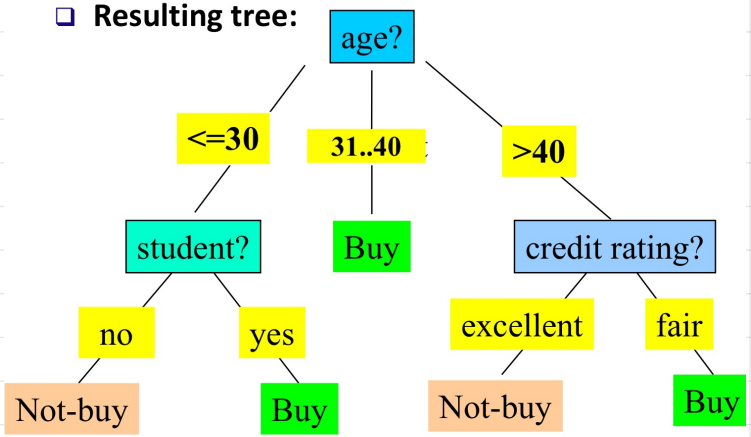
age	income	student
≤ 30	high	N
≤ 30	high	N
≤ 30	low	Y
≤ 30	medium	Y
31…40	high	N
31…40	m	N
31…40	h	Y
> 40	m	N
> 40	l	Y
> 40	l	Y
> 40	m	Y
> 40	m	N

X_1 age

X_2 income



- **Resulting tree:**



$$Info(D) = I(6,6) = -\frac{6}{12}\log_2\left(\frac{6}{12}\right) - \frac{6}{12}\log_2\left(\frac{6}{12}\right) = 1.5$$

	p	n	
≤ 30	2	2	1.5
31…40	1	2	
> 40	3	2	

$$I(2,2) = -\frac{2}{4}\log_2\left(\frac{2}{4}\right) - \frac{2}{4}\log_2\left(\frac{2}{4}\right) = 1.5$$