

$$\text{age} = 22 \Rightarrow \leq 30$$

$$\text{student} = y$$

age	income	student	credit_rating	buys_computer
<=30	high	no	fair	no
<=30	high	no	excellent	no
31...40	high	no	fair	yes
>40	medium	no	fair	yes
>40	low	yes	fair	yes
>40	low	yes	excellent	no
31...40	low	yes	excellent	yes
<=30	medium	no	fair	no
<=30	low	yes	fair	yes
>40	medium	yes	fair	yes
<=30	medium	yes	excellent	yes
31...40	medium	no	excellent	yes
31...40	high	yes	fair	yes
>40	medium	no	excellent	no

$$P(\text{buy} = y) = P(\hat{X} | \text{buy} = y) P(\text{buy} = y)$$

$$= P(\text{age} \leq 30 | \text{buy} = y) P(\text{student} = y | \text{buy} = y) \times \frac{9}{14}$$

$$= \frac{2}{9} \times \frac{6}{9} \times \frac{9}{14}$$

$$= \frac{2}{21} \approx 0.095238$$

$$P(\text{buy} = n) = P(\hat{X} | \text{buy} = n) P(\text{buy} = n)$$

$$= P(\text{age} \leq 30 | \text{buy} = n) P(\text{student} = y | \text{buy} = n) \times \frac{5}{14}$$

$$= \frac{3}{5} \times \frac{1}{5} \times \frac{5}{14}$$

$$= \frac{3}{70} \approx 0.0428571$$