

LS40

input Age 31-40, income = high, student = yes, Fair

$$P(A) : P(\text{buy} = \text{"yes"}) = 9/14$$

$$P(\text{buy} = \text{"no"}) = 5/14$$

$$X = (\text{Age } 31-40, \text{ income} = \text{high}, \text{ student} = \text{yes})$$

$$\text{credit} = \text{Fair})$$

$$P(\text{age} = \text{"31-40"} \mid \text{buy} = \text{"yes"}) = 4/9$$

$$\text{buy} = \text{"no"} \rightarrow 0/5 \rightarrow 1/8$$

$$P(\text{income} = \text{high} \mid \text{buy} = \text{"yes"}) = 2/9$$

$$\text{buy} = \text{"no"} \rightarrow 2/5$$

$$P(\text{student} = \text{yes} \mid \text{buy} = \text{"yes"}) = 6/9$$

$$P(\text{student} = \text{yes} \mid \text{buy} = \text{"no"}) = 1/5$$

$$P(\text{credit} = \text{Fair} \mid \text{buy} = \text{"yes"}) = 6/9$$

$$P(\text{credit} = \text{Fair} \mid \text{buy} = \text{"no"}) = 2/5$$

$$P(X|c_i) : P(X | \text{buy} = \text{"yes"}) = \frac{4}{9} \times \frac{2}{9} \times \frac{6}{9} \times \frac{6}{9} = 0.439$$

$$P(X | \text{buy} = \text{"no"}) = \frac{1}{8} \times \frac{2}{5} \times \frac{1}{5} \times \frac{2}{5} = 0.004$$

$$P(X|c_i) \times P(c_i) : \frac{9}{14} \times 0.439 = 0.2822 \quad \checkmark$$

$$: \frac{5}{14} \times 0.004 = 0.00143$$

ជំពូក ៨ ទិសដៅកុំព្យូទ័រ ("buy_computer" = "yes")