input age 31-40 , income = high , student = yes , Credit = fair

$P(C_j)$: $P(buys\_computer = \text{"yes"}) = 9/14 = 0.643$

$P(buys\_computer = \text{"No"}) = 5/14 = 0.357$

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

$P(age = \text{"31-40"} \mid buy\_computer = \text{"No"}) = 0/5 + 1/2 = 1/7$

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

$P(income = \text{"high"} \mid buy\_computer = \text{"No"}) = 2/5$

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

$P(Student = \text{"yes"} \mid buy\_computer = \text{"No"}) = 1/5$

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

$P(Credit = \text{"fair"} \mid buy\_computer = \text{"No"}) = 2/5$

$P(X \mid C_j) = P(X \mid buy\_computer = \text{"yes"}) = \frac{4}{9} \times \frac{2}{9} \times \frac{1}{9} \times \frac{6}{9} = 0.045$

$P(X \mid buy\_computer = \text{"No"}) = \frac{1}{7} \times \frac{2}{5} \times \frac{1}{9} \times \frac{2}{5} = 0.002$

$P(X \mid C_j) * P(C_j) = P(buys\_computer = \text{"yes"}) * P(X \mid buy\_computer = \text{"yes"})$

$= 0.045 \times 0.643 = 0.029$

$P(buys\_computer = \text{"No"}) * P(X \mid buy\_computer = \text{"No"})$

$= 0.002 \times 0.357 = 0.001$

"yes"