

| 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 |

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

□ $P(C_i)$: $P(\text{buys_computer} = \text{"yes"}) = 9/14 = 0.643$
 $P(\text{buys_computer} = \text{"no"}) = 5/14 = 0.357$

$P(X|C)$ ในแต่ละคลาส

$P(\text{age} = \text{"31-40"} | \text{buys_computer} = \text{"yes"}) = 4/9$ (บวก 1 กับเศษ, 2 กับส่วน) $= 5/11 = 0.45$

$P(\text{age} = \text{"31-40"} | \text{buys_computer} = \text{"no"}) = 0/5$ (บวก 1 กับเศษ, 2 กับส่วน) $= 1/7 = 0.14$

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

$P(\text{income} = \text{"high"} | \text{buys_computer} = \text{"no"}) = 2/5$

$P(\text{student} = \text{"yes"} | \text{buys_computer} = \text{"yes"}) = 6/9$

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

$P(\text{credit_rating} = \text{"fair"} | \text{buys_computer} = \text{"yes"}) = 6/9$

$P(\text{credit_rating} = \text{"fair"} | \text{buys_computer} = \text{"no"}) = 2/5$

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

$P(X | \text{buys_computer} = \text{"yes"}) = 5/11 * 2/9 * 6/9 * 6/9 = 0.044$

$P(X | \text{buys_computer} = \text{"no"}) = 1/7 * 2/5 * 1/5 * 2/5 = 0.0045$

$P(X | \text{buys_computer} = \text{"yes"}) * P(\text{buys_computer} = \text{"yes"}) = 0.45 * 0.044 = 0.0198$

$P(X | \text{buys_computer} = \text{"no"}) * P(\text{buys_computer} = \text{"no"}) = 0.00063$

ตอบ (yes เพราะมีค่า P มากสุด) (643020514-7_ภุริศ เครือชาวี)

