[illegible]
6430205175-5

Quiz 8

Input : Age : 31-40, income = High, student : yes, Credit_card : fair

$P(C_i)$: P(buys_computer = "yes") = 9/14 = 0.643

P(buys_computer : "no") : 5/14 = 0.357

$P(X|C_i)$ for each class

- P(age = "31-40" | yes) = $\frac{4}{9}$ = 0.444
- P(age : "31-40" | no) = $\frac{0+1}{5+2}$ = $\frac{1}{7}$ = 0.143

+1 feature / +2 : Prob(age "31-40") → yes, no

- P(income : high | yes) : $\frac{2}{9}$ = 0.222
- P(income : high | no) : $\frac{2}{5}$ = 0.4
- P(student | yes) : $\frac{6}{9}$ = 0.667
- P(student | no) = $\frac{1}{5}$ = 0.2
- P(fair | yes) = $\frac{6}{9}$ = 0.667
- P(fair | no) = $\frac{2}{5}$ = 0.4

=> x = Input

$P(X|C_i)$: P(X | buy_com = "yes") = 0.444 × 0.222 × 0.667 × 0.667 = 0.0438

P(X | buy_com : "no") = 0.143 × 0.4 × 0.2 × 0.4 = 0.0046

$P(X|C_i) \cdot P(C_i)$: P(X | buy_com : "yes") × P(buy_com : "yes") —①

: P(X | buy_com : "no") × P(buy_com : "no") —②

① : 0.0438 × 0.643 = 0.0282 #, ② : 0.0046 × 0.357 = 0.0016 #

∴ Input / x belong to class (buys_computer : "yes")

หรือ Input จะซื้อคอมพิวเตอร์ #