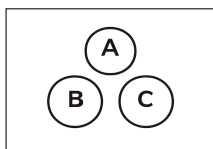


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Discrete Distribution Independant Events

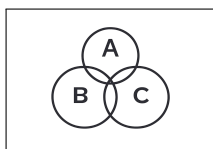
F



$$P(A) = 0.40$$

$$P(B) = 0.70$$

$$\text{⊞}(A, B) = \text{thumbs up}$$



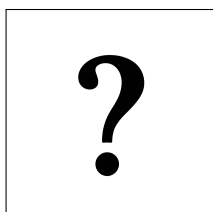
$$\text{⊞}(A, B) \rightarrow P(A|B) = P(A)$$

$$\text{⊞}(A, B) \rightarrow P(A \cap B) = P(A) \times P(B)$$

$$\text{⊞}(A, B) \rightarrow P(A \cup B) = P(A) + P(B) - P(A) \times P(B)$$

$$\text{⊞}(A, B) \rightarrow P(A \cup B) = 0.40 + 0.70 - 0.40 \times 0.70$$

$$\text{⊞}(A, B) \rightarrow P(A \cup B) = 0.82$$



$$P(A) = 0.1$$

$$P(B) = 0.3$$

$$P(C) = 0.4$$

$$\text{⊞}(A, B, C) = \text{thumbs up}$$

$$P(A \cup B^c \cup C^c) = ?$$

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Discrete Distribution Independant Events

F



$$P(B^c) = 1 - P(B) = 0.7$$

$$P(C^c) = 1 - P(C) = 0.6$$

$$P(A \cup B^c \cup C^c) = 1 - P(A^c \cap B \cap C)$$

$$P(A^c \cap B \cap C) = P(A^c) \cdot P(B) \cdot P(C) = (1 - 0.1) \cdot 0.3 \cdot 0.4 = 0.9 \cdot 0.3 \cdot 0.4 = 0.108$$

$$P(A \cup B^c \cup C^c) = 1 - 0.108 = 0.89$$