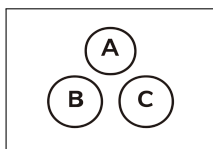


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Discrete Distribution
Conditional Probabilities

E



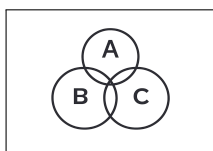
$$H = 60$$

$$U = 100$$

$$P(M \cap H) = 0.10$$

$$P(H) = 60/100 = 0.60$$

$$P(M|H) = ?$$



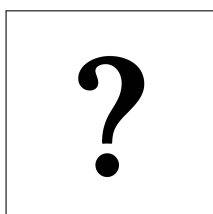
$$H = 60$$

$$U = 100$$

$$P(M \cap H) = 0.10$$

$$P(H) = 60/100 = 0.60$$

$$P(M|H) = P(M \cap H)/P(H) = 0.10/0.60 = 1/6 \approx 0.17$$



$$P(A) = 0.50$$

$$P(B) = 0.30$$

$$P(C) = 0.20$$

$$P(D|A) = 0.01$$

$$P(D|B) = 0.02$$

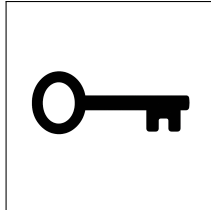
$$P(D|C) = 0.05$$

$$P(D) = ?$$

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Discrete Distribution
Conditional Probabilities

E



$$P(A) = 0.50$$

$$P(B) = 0.30$$

$$P(C) = 0.20$$

$$P(D|A) = 0.01$$

$$P(D|B) = 0.02$$

$$P(D|C) = 0.05$$

$$P(D) = ?$$

$$P(D) = P(D|A)P(A) + P(D|B)P(B) + P(D|C)P(C)$$

$$P(D) = (0.01)(0.50) + (0.02)(0.30) + (0.05)(0.20)$$

$$P(D) = 0.005 + 0.006 + 0.01 = 0.021$$