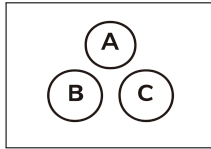


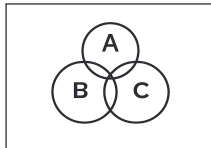
8

Discrete Distribution
Probability

B



$$S = \{B, B, R, R, R\}$$



$$\mathbb{P}(S, BB) = \mathbb{P}(S, B) \times \mathbb{P}(S, B) = 0.40 \times 0.25 = 0.10$$

$$\mathbb{P}(S, BR) = \mathbb{P}(S, B) \times \mathbb{P}(S, R) = 0.40 \times 0.75 = 0.30$$

$$\mathbb{P}(S, RB) = \mathbb{P}(S, R) \times \mathbb{P}(S, B) = 0.60 \times 0.50 = 0.30$$

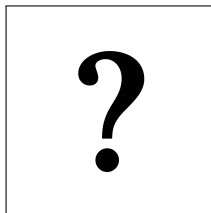
$$\mathbb{P}(S, RR) = \mathbb{P}(S, R) \times \mathbb{P}(S, R) = 0.60 \times 0.50 = 0.30$$

$$\mathbb{P}(S, BB) = \mathbb{P}(S, B) \times \mathbb{P}(S, B) = 0.40 \times 0.40 = 0.16$$

$$\mathbb{P}(S, BR) = \mathbb{P}(S, B) \times \mathbb{P}(S, R) = 0.40 \times 0.60 = 0.24$$

$$\mathbb{P}(S, RB) = \mathbb{P}(S, R) \times \mathbb{P}(S, B) = 0.60 \times 0.40 = 0.24$$

$$\mathbb{P}(S, RR) = \mathbb{P}(S, R) \times \mathbb{P}(S, R) = 0.60 \times 0.60 = 0.36$$



$$S = \{G, G, R, R, R\}$$

$$\mathbb{P}(S, R) = ?$$

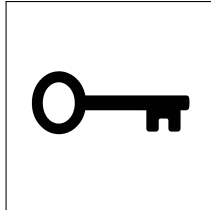
$$\mathbb{P}(S, GR) = ?$$

$$\mathbb{P}(S, GGR) = ?$$

8

Discrete Distribution
Probability

B



$$S = \{G, G, R, R, R\}$$

$$\mathbb{P}(S, R) = 3/5 = 0.60$$

$$\mathbb{P}(S, GR) = \mathbb{P}(S, G) \times \mathbb{P}(S, R) = 2/5 \times 3/4 = 0.30$$

$$\mathbb{P}(S, GGR) = \mathbb{P}(S, G) \times \mathbb{P}(S, G) \times \mathbb{P}(S, R) = 2/5 \times 1/4 \times 1 = 0.10$$