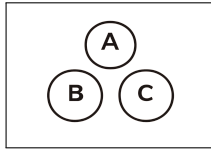


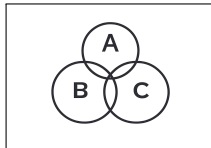
8

Discrete Distribution
Probability

J



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



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

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

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

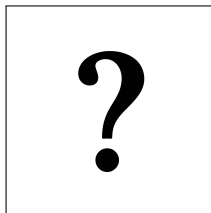
$$\mathbb{P}(S, RR) = \mathbb{P}(S, R) \times \mathbb{P}(S, R) = 0.60 \times 0.50 = 0.30$$

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

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

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

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



$$S = \{T, T, T, T, C, C, C, C, C, P, P\}$$

$$P(\mathbb{P}(S, TT) + \mathbb{P}(S, CC) + \mathbb{P}(S, PP)) = ?$$

8

Discrete Distribution
Probability

J



$$S = \{T, T, T, T, C, C, C, C, C, P, P\}$$

$$P(\textcircled{\#}(S, TT) + \textcircled{\#}(S, CC) + \textcircled{\#}(S, PP)) = ?$$

$$\textcircled{\#}(S, 2) = \binom{11}{2} = \frac{11 \cdot 10}{2} = 55$$

$$\textcircled{\#}(S, TT) = \binom{4}{2} = 6$$

$$\textcircled{\#}(S, CC) = \binom{5}{2} = 10$$

$$\textcircled{\#}(S, PP) = \binom{2}{2} = 1$$

$$P(\textcircled{\#}(S, TT) + \textcircled{\#}(S, CC) + \textcircled{\#}(S, PP)) = (\textcircled{\#}(S, TT) +$$

$$\textcircled{\#}(S, CC) + \textcircled{\#}(S, PP) / \textcircled{\#}(S, 2) = (6 + 10 + 1) / 55 =$$

$$\frac{38}{55} \approx 0.69$$