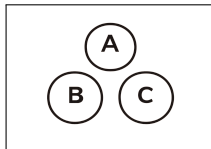


15 Discrete Distribution Expected Value Variable

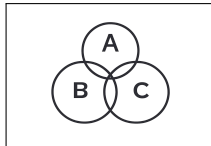
G



$$X = \{1, 2, 3, 4, 5, 6\}$$

$$P(1) = P(2) = P(3) = P(4) = P(5) = P(6) = \frac{1}{6}$$

$$E[X] = ?$$



$$E[X] = \sum xP(X = x)$$

$$E[X] = \frac{1}{6}(1 + 2 + 3 + 4 + 5 + 6)$$

$$E[X] = \frac{1}{6}(21)$$

$$E[X] = \frac{21}{6}$$

$$E[X] = 3.5$$



$$P(X = 49) = 0.10$$

$$P(X = 34) = 0.20$$

$$P(X = -1) = 0.70$$

$$E(X) = ?$$

15 Discrete Distribution Expected Value Variable

G



$$P(X = 49) = 0.10$$

$$P(X = 34) = 0.20$$

$$P(X = -1) = 0.70$$

$$E(X) = ?$$

$$E(X) = \sum_x xP(X = x)$$

$$E(X) = 49 \times P(X = 49) + 34 \times P(X = 34) + -1 \times P(X = -1)$$

$$E(X) = 49 \times 0.10 + 34 \times 0.20 + -1 \times 0.70$$

$$E(X) = 4,9 + 6,8 - 0,7$$

$$E(X) = 11$$