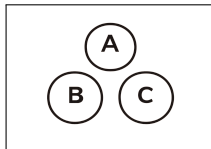


15 Discrete Distribution Expected Value Variable

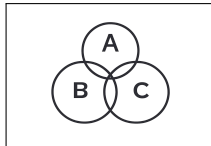
F



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

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

$$E[X] = ?$$



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

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

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

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

$$E[X] = 3.5$$



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

$$N = 2 - X = \{1, 0, -1, -2\}$$

$$P(X = x) = \frac{1}{4}$$

$$E(N) = ?$$

15 Discrete Distribution Expected Value Variable

F



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

$$N = 2 - X = \{1, 0, -1, -2\}$$

$$P(X = x) = \frac{1}{4}$$

$$E(N) = ?$$

$$E(N) = \sum_x N(x)P(X = x)$$

$$E(N) = 1 \times \frac{1}{4} + 0 \times \frac{1}{4} + (-1) \times \frac{1}{4} + (-2) \times \frac{1}{4}$$

$$E(N) = \frac{1+0-1-2}{4}$$

$$E(N) = \frac{-2}{4} = -0.50$$