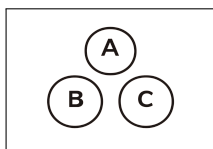


19

Discrete Distribution Bernoulli Trials

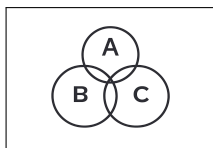
M



$$n = 2$$

$$p = 0.50$$

$$k = 1$$

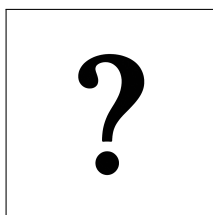


$$P(X = k) = \binom{n}{k} (p)^k (1 - p)^{n-k}$$

$$P(X = 1) = \binom{2}{1} (0.50)^1 (0.50)^1$$

$$P(X = 1) = 2 \times 0.50 \times 0.50$$

$$P(X = 1) = \boxed{0.50}$$



$$p = 0.80$$

$$n = 6$$

$$E[X] = ?$$

$$Var(X) = ?$$

$$\sigma_X = ?$$

19

Discrete Distribution
Bernoulli Trials

M



$$p = 0.80$$

$$n = 6$$

$$E[X] = ?$$

$$\text{Var}(X) = ?$$

$$\sigma_X = ?$$

$$E[X] = np = 6 \times 0.80 = \boxed{4.8}$$

$$\text{Var}(X) = np(1-p) = 6 \times 0.80 \times 0.20 = \boxed{0.96}$$

$$\sigma_X = \sqrt{\text{Var}(X)} = \sqrt{0.96} \approx \boxed{0.98}$$