M358K: August 30th, 2023.

Binomial Distribution.

Models the number of successes in a set of independent, identically distributed Bernoulli trials.

p... the probability of success in a single trial

n... the number of trials

$$Y \sim \text{Binomial}(n, p)$$

$\text{Support}(Y) = \{0, 1, \ldots, n\}$

the pmf of Y:

$$p_Y(k) = \binom{n}{k} p^k (1-p)^{n-k} \qquad k = 0, 1, \ldots, n$$