Binomial Distribution

$X \sim B(n, p)$

- n: no. of trials
- p: probability of success (fixed & independent)

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

$\text{Variance} = np(1-p)$ & $\text{mean/expected value} = np$

Assumptions:

- independent
- fixed ~~number of events~~ probability of success