Name	Notation	Parameters	PDF/PMF	Support	Mean	Variance
Bernoulli	$\text{Bern}(p)$	$p \in (0,1)$	$f(x) = p^x(1-p)^{1-x}$	$x \in \{0,1\}$	p	$p(1-p)$
Beta	$\text{Beta}(a,b)$	$a,b > 0$	$f(x) = \frac{\Gamma(a+b)}{\Gamma(a)\Gamma(b)}x^{a-1}(1-x)^{b-1}$	$x \in (0,1)$	$\frac{a}{a+b}$	$\frac{ab}{(a+b)^2(a+b+1)}$
Binomial	$\text{Binom}(n,p)$	$n \in \mathbb{Z}^+, p \in (0,1)$	$f(x) = \binom{n}{x}p^x(1-p)^{n-x}$	$x \in \{0,1,\dots,n\}$	np	$np(1-p)$
Exponential	$\text{Exp}(\lambda)$	$\lambda > 0$	$f(x) = \lambda e^{-\lambda x}$	$x > 0$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$
First Success	$\text{FS}(p)$	$p \in (0,1)$	$f(x) = p(1-p)^{x-1}$	$x = 1,2,\dots$	$\frac{1}{p}$	$\frac{1-p}{p^2}$
Gamma	$\text{Gamma}(a,b)$	$a,b > 0$	$f(x) = \frac{b^a}{\Gamma(a)}x^{a-1}e^{-bx}$	$x > 0$	$\frac{a}{b}$	$\frac{a}{b^2}$
Geometric	$\text{Geom}(p)$	$p \in (0,1)$	$f(x) = p(1-p)^x$	$x = 0,1,2,\dots$	$\frac{1-p}{p}$	$\frac{1-p}{p^2}$
Hypergeometric	$\text{HGeom}(w,b,n)$	$w,b,n = 0,1,\dots$	$f(x) = \frac{\binom{w}{x}\binom{b}{n-x}}{\binom{w+b}{n}}$	$x \in \{0,\dots w\}$, $(n-x) \in \{0,\dots b\}$	$\frac{nw}{w+b}$	$\frac{w+b-n}{w+b-1}\left(\frac{nwb}{(w+b)^2}\right)$
Multinomial	$\text{Multinom}_k(n,\mathbf{p})$ $\mathbf{p} = (p_1,\dots,p_k)$	$n \in \mathbb{Z}^+, p_j \geq 0$ $\sum_{j=1}^k p_j = 1$	$f(\mathbf{x}) = \frac{n!}{x_1!\cdots x_k!}p_1^{x_1}\cdots p_k^{x_k}$	$\sum_{j=1}^k x_j = n$		
Negative Binomial	$\text{NegBinom}(r,p)$	$n = 0,1,\dots$ $p \in (0,1)$	$f(x) = \binom{x+r-1}{x}p^r(1-p)^x$	$x = 0,1,2,\dots$	$\frac{r(1-p)}{p}$	$\frac{r(1-p)}{p^2}$
Normal	$N(\mu,\sigma^2)$	$\mu \in \mathbb{R}, \sigma^2 > 0$	$f(x) = \frac{1}{\sqrt{2\pi\sigma^2}}e^{-\frac{1}{2\sigma^2}(x-\mu)^2}$	$x \in \mathbb{R}$	μ	σ^2
Poisson	$\text{Poisson}(\lambda)$	$\lambda > 0$	$f(x) = \frac{e^{-\lambda}\lambda^x}{x!}$	$x = 0,1,2,\dots$	λ	λ
Uniform (cont.)	$\text{Unif}(a,b)$	$a,b \in \mathbb{R}, a < b$	$f(x) = \frac{1}{b-a}$	$x \in (a,b)$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$