1 Discrete Distributions

X	Range	$\mathbb{P}(X=k)$	$\mathbb{E}(X)$	$\mathrm{var}(X)$
Uniform(a,b)	$a..b$	$\frac{1}{b-a+1}$	$\frac{a+b}{2}$	$\frac{(b-a+1)^2-1}{12}$
Bernoulli(p)	$0,1$	$\begin{cases} p & X=1 \\ 1-p & X=0 \end{cases}$	p	$p(1-p)$
Binomial(n,p)	$0..n$	$\binom{n}{k}p^k(1-p)^{n-k}$	np	$np(1-p)$
Hypergeometric(N,K,n)	$0..n$	$\frac{\binom{K}{k}\binom{N-K}{n-k}}{\binom{N}{n}}$	$n\frac{K}{N}$	$n\frac{K}{N}\frac{N-K}{N}\frac{N-n}{N-1}$
Geometric(p)	$1..\infty$	$(1-p)^{k-1}p$	$\frac{1}{p}$	$\frac{1-p}{p^2}$
Poisson(λ)	$0..\infty$	$e^{-\lambda}\frac{\lambda^k}{k!}$	λ	λ

2 Continuous Distributions

X	Range	PDF$(X=x)$	CDF$(X=x)$	$\mathbb{E}(X)$	$\mathrm{var}(X)$
Uniform(a,b)	$[a,b]$	$\frac{1}{b-a}$	$\frac{x-a}{b-a}$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$
Exponential(λ)	$[0,\infty)$	$\lambda e^{-\lambda x}$	$1-e^{-\lambda x}$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$
Normal(μ,σ^2)	$(-\infty,\infty)$	$\frac{1}{\sqrt{2\pi\sigma^2}}e^{-\frac{(x-\mu)^2}{2\sigma^2}}$	$\Phi\left(\frac{x-\mu}{\sigma}\right)$	μ	σ^2