Table of Discrete and Continuous distributions

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Distribution	Type	Mass/density function $f(x)$	Mean μ	Variance σ^2
Uniform(n)	D	$1/n$, for $x = 1, 2, \ldots, n$	$(n+1)/2$	$(n^2-1)/12$
Uniform(a, b)	C	$\frac{1}{b-a}$, for $x \in [a, b]$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$
Bernoulli(p)	D	$f(0) = 1-p, f(1) = p$	p	$p(1-p)$
Binomial(n, p)	D	$\binom{n}{x} p^x (1-p)^{n-x}$, for $x = 0, 1, \ldots, n$	np	npq
Geometric(p)	D	$q^{x-1}p$, for $x = 1, 2, \ldots$	$1/p$	$(1-p)/p^2$
NegativeBinomial(p,r)	D	$\binom{x-1}{r-1} p^r q^{x-r}$, for $x = r, r+1, \ldots$	r/p	$r(1-p)/p^2$
Hypergeometric(N,M,n)	D	$\frac{\binom{M}{x}\binom{N-M}{n-x}}{\binom{N}{n}}$, for $x = 0, 1, \ldots, n$	np	$np(1-p)$
Poisson(λt)	D	$\frac{1}{x!}(\lambda t)^x e^{-\lambda t}$, for $x = 0, 1, \ldots$	λt	λt
Exponential(λ)	C	$\lambda e^{-\lambda x}$, for $x \in [0, \infty)$	$1/\lambda$	$1/\lambda^2$
Gamma(λ, r) Gamma(α, β)	C	$\frac{1}{\Gamma(r)} \lambda^r x^{r-1} e^{-\lambda x}$ $= \frac{x^{\alpha-1} e^{-x/\beta}}{\beta^\alpha \Gamma(\alpha)}$, for $x \in [0, \infty)$	r/λ $= \alpha\beta$	r/λ^2 $= a\beta^2$
Beta(α, β)	C	$\frac{1}{\mathrm{B}(\alpha, \beta)} x^{\alpha-1}(1-x)^{\beta-1}$, for $0 \le x \le 1$	$\frac{\alpha}{\alpha+\beta}$	$\frac{\alpha\beta}{(\alpha+\beta)^2(\alpha+\beta+1)}$
Normal(μ, σ^2)	C	$\frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{(x-\mu)^2}{2\sigma^2}\right)$, for $x \in \mathbf{R}$	μ	σ^2
ChiSquared(ν)	C	$\frac{x^{\nu/2-1} e^{x/2}}{2^{\nu/2}\Gamma(\nu/2)}$, for $x \ge 0$	ν	2ν
T(ν)	C	$\frac{\Gamma(\frac{\nu+1}{2})}{\sqrt{\pi\nu}\,\Gamma(\frac{\nu}{2})\,(1+x^2/\nu)^{(\nu+1)/2}}$, for $x \in \mathbf{R}$	0	$\nu/(\nu-2)$
F(ν_1, ν_2)	C	$\frac{1}{\mathrm{B}(\frac{\nu_1}{2}, \frac{\nu_2}{2})} \frac{(\frac{\nu_1}{\nu_2})^{\nu_1/2} x^{\nu_1/2-1}}{(1+\frac{\nu_1}{\nu_2}x)^{(\nu_1+\nu_2)/2}}$, for > 0	$\frac{\nu_2}{\nu_2-2}$	$\frac{2\nu_2^2(\nu_1+\nu_2-2)}{\nu_1(\nu_2-2)^2(\nu_2-4)}$