Name	Pfd	Mean	Variance	mgf
Bernoulli distribution	$f(x,p)=\begin{cases} p, & x=1 \\ 1-p, & x=0 \quad 0<p<1 \\ 0, & \text{otherwise} \end{cases}$	p	$p(1-p)$	$q+pe^t,\ q=1-p$
Binomial	$f(x,n,p)=\binom{n}{x}p^x q^{n-x},\ x=0,1,\ldots,n$	np	npq	$(q+pe^t)^n$
Geometric	$f(x,p)=q^{x-1}p, x=1,2,\ldots 0<p\leq 1.$	$\frac{1}{p}$	$\frac{q}{p^2}$	$\frac{pe^t}{1-qe^t}$
Hyper-geometric	$f(x,N,m,n)=\frac{\binom{m}{x}\binom{N-m}{n-x}}{\binom{N}{n}},$ $N=0,1,2,\ldots,\ m=0,1,\ldots,N,$ $n=0,1,\ldots,N$	$\frac{nm}{N}$	$\frac{n\left(\frac{m}{N}\right)\left(1-\frac{m}{N}\right)(N-n)}{N-1}$	
Negative binomial	$f(x,r,p)=\binom{x+r-1}{x}p^r q^x$ $x=0,1,2,\ldots$	$r\frac{q}{p}$	$r\frac{q}{p^2}$	$\left(\frac{p}{1-qe^t}\right)^r$
Poisson	$f(x,\lambda)=\frac{\lambda^x e^{-\lambda}}{x!},$ $x=0,1,2,\ldots$	λ	λ	$\exp(\lambda(e^t-1))$
Beta	$f(x,\alpha,\beta)=\left(\frac{\Gamma(\alpha+\beta)}{\Gamma(\alpha)\Gamma(\beta)}\right)x^{\alpha-1}(1-x)^{\beta-1},$ $0<x<1$	$\frac{\alpha}{\alpha+\beta}$	$\frac{\alpha\beta}{(\alpha+\beta)^2(\alpha+\beta+1)}$	
Chi-square	$f(x,v)=\frac{2^{v/2}x^{v-1}e^{-x^2/2}}{\Gamma(x/2)},$ $x\geq 0, v>0$ (degrees of freedom)	$\sqrt{2}\frac{\Gamma((v+1)/2)}{\Gamma(v/2)}$	$v-\mu^2$	
Exponential	$f(x,\lambda)=\begin{cases} \lambda e^{-\lambda x}, & x\geq 0, \\ 0, & \text{otherwise}, \end{cases}$ $\lambda>0$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$	$\left(1-\frac{t}{\lambda}\right)^{-1}$
Gamma	$f(x,\alpha,\beta)=x^{\alpha-1}\frac{\beta^\alpha e^{-\beta_x}}{\Gamma(\alpha)},$ $x>0, \alpha>0, \beta>0$	$\frac{\alpha}{\beta}$	$\frac{\alpha}{\beta^2}$	$\left(1-\frac{t}{\beta}\right)^{-\alpha},$ $t<\beta.$
Laplace	$f(x,\mu,\sigma)=\frac{1}{2\sigma}\exp\left(-\frac{\lvert x-\mu\rvert}{\sigma}\right),$ $-\infty<x,\mu$	μ	$2\sigma^2$	
Normal	$f\left(x,\mu,\sigma^2\right)=\frac{1}{\sigma\sqrt{2\pi}}\exp\left(\frac{(x-\mu)^2}{2\sigma^2}\right),$ $-\infty<x,\ \mu<\infty, \sigma>0$	μ	σ^2	$\exp\left(\mu t+\frac{\sigma^2 t^2}{2}\right)$
Uniform	$f(x,a,b)=\frac{1}{b-a},$ $a\leq x\leq b$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$	$\frac{e^{tb}-e^{ta}}{t(b-a)}$