Distribuzioni Notevoli Discrete

	Funz. di probabilità $p_X(k)$	Aspettazione $\mathbb{E}[X]$	Varianza $\mathrm{Var}(X)$	Funz. Gen. Momenti $G_X(t)$
Bernoulli $\mathrm{Ber}(p)$ $p \in [0,1]$	$\begin{cases} p & \text{se} \quad k=1 \\ 1-p & \text{se} \quad k=0 \end{cases}$ $k \in \{0,1\}$	p	$p(1-p)$	$pe^t + (1-p)$
Binomiale $\mathrm{Bin}(n,p)$ $n \in \{1,2,\ldots\}$ $p \in [0,1]$	$\binom{n}{k} p^k (1-p)^{n-k}$ $k \in \{0,1,\ldots,n\}$	np	$np(1-p)$	$(pe^t + (1-p))^n$
Geometrica $\mathrm{Geo}(p)$ $p \in [0,1]$	$p(1-p)^{k-1}$ $k \in \{1,2,\ldots\}$	$\frac{1}{p}$	$\frac{1-p}{p^2}$	$\begin{cases} \frac{p}{e^{-t}-(1-p)} & \text{se} \quad t < \log \frac{1}{1-p} \\ +\infty & \text{se} \quad t \geq \log \frac{1}{1-p} \end{cases}$
Poisson $\mathrm{Pois}(\mu)$ $\mu \in (0,+\infty)$	$e^{-\mu} \frac{\mu^k}{k!}$ $k \in \{0,1,\ldots,n\}$	μ	μ	$e^{\mu(e^t-1)}$
Binomiale Negativa $\mathrm{NBin}(r,p)$ $r \in \{1,2,\ldots\}$ $p \in [0,1]$	$\binom{k-1}{r-1} p^r (1-p)^{k-r}$ $k \in \{r, r+1, \ldots\}$	$\frac{r}{p}$	$r\,\frac{1-p}{p^2}$	$\begin{cases} \left(\frac{p}{e^{-t}-(1-p)}\right)^r & \text{se} \quad t < \log \frac{1}{1-p} \\ +\infty & \text{se} \quad t \geq \log \frac{1}{1-p} \end{cases}$
Ipergeometrica $\mathrm{Hyper}(r,b,n)$ $r,b,n \in \{1,2,\ldots\}$ $n \leq r+b$	$\frac{\binom{r}{k}\binom{b}{n-k}}{\binom{b+r}{n}}$ $k \in \{\max\{0, n-b\}, \ldots$ $\ldots, \min\{r,n\}\}$	$\frac{nr}{r+b}$	$\frac{nrb(r+b-n)}{(r+b)^2(r+b-1)}$	

Distribuzioni Notevoli Continue

	Dens. di probabilità $f_X(x)$	Aspettazione $\mathbb{E}[X]$	Varianza $\mathrm{Var}(X)$	Funz. Gen. Momenti $G_X(t)$
Uniforme $\mathrm{U}(\alpha,\beta)$ $\alpha,\beta\in\mathbb{R}$ $\alpha\le\beta$	$\begin{cases}\frac{1}{\beta-\alpha} & \text{se } x\in(\alpha,\beta)\\ 0 & \text{altrimenti}\end{cases}$	$\frac{\alpha+\beta}{2}$	$\frac{(\beta-\alpha)^2}{12}$	$\frac{e^{\beta t}-e^{\alpha t}}{t(\beta-\alpha)}$
Esponenziale $\mathrm{Exp}(\lambda)$ $\lambda\in(0,\infty)$	$\begin{cases}\lambda e^{-\lambda x} & \text{se } x\ge 0\\ 0 & \text{altrimenti}\end{cases}$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$	$\begin{cases}\frac{\lambda}{\lambda-t} & \text{se } t<\lambda\\ +\infty & \text{se } t\ge\lambda\end{cases}$
Gamma $\Gamma(\lambda,n)$ $\lambda\in(0,\infty)$ $n\in\{1,2,\dots\}$	$\begin{cases}\frac{\lambda^n}{(n-1)!}\,x^{n-1}\,e^{-\lambda x} & \text{se } x\ge 0\\ 0 & \text{altrimenti}\end{cases}$	$\frac{n}{\lambda}$	$\frac{n}{\lambda^2}$	$\begin{cases}\left(\frac{\lambda}{\lambda-t}\right)^n & \text{se } t<\lambda\\ +\infty & \text{se } t\ge\lambda\end{cases}$
Pareto $\mathrm{Par}(\alpha)$ $\alpha>0$	$\begin{cases}\frac{\alpha}{x^{\alpha+1}} & \text{se } x\ge 1\\ 0 & \text{altrimenti}\end{cases}$	$\frac{\alpha}{\alpha-1}$ se $\alpha>1$	$\frac{\alpha}{(\alpha-1)^2(\alpha-2)}$ se $\alpha>2$	$\nexists$
Gaussiana $\mathrm{N}(\mu,\sigma^2)$ $\sigma>0$ $\mu\in\mathbb{R}$	$\frac{1}{\sqrt{2\pi}\sigma}\,e^{-\frac{(x-\mu)^2}{2\sigma^2}}$	μ	σ^2	$e^{\mu t+\frac{\sigma^2}{2}t^2}$