Random variable - part 2

	p(x) or f(x)	F(x)	M	note
$A(\pi)$	$\pi^x(1-\pi)^{1-x}$	$\sum_{t \le x} p(t)$	$x = 0, 1$	$\pi \in (0; 1)$
$B(n, \pi)$	$\binom{n}{x}\pi^x(1-\pi)^{n-x}$	$\sum_{t \le x} p(t)$	$x = 0, 1, 2, \dots, n$	$\pi \in (0; 1)$
$P(\lambda)$	$\frac{e^{-\lambda}\lambda^x}{x!}$ 1)	$\sum_{t \le x} p(t)$	$x = 0, 1, 2, \dots$	1) p(x) tabulated
$Hg(N, M, n)$	$\frac{\binom{M}{x}\cdot\binom{N-M}{n-x}}{\binom{N}{n}}$	$\sum_{t \le x} p(t)$	$x = x_D, \dots, x_H$	$x_D = \max\{0, n+M-N\}$ $x_H = \min\{n, M\}$
$R(\alpha, \beta)$	$\frac{1}{\beta-\alpha}$	$\frac{x-\alpha}{\beta-\alpha}$	$x \in (\alpha, \beta)$	
$E(\alpha, \delta)$	$\frac{1}{\delta}e^{-\frac{x-\alpha}{\delta}}$	$1-e^{-\frac{x-\alpha}{\delta}}$	$x > \alpha$	$\alpha \in R,\ \delta > 0$
$N(\mu, \sigma^2)$	$\frac{1}{\sigma\sqrt{2\pi}}e^{-\frac{(x-\mu)^2}{2\sigma^2}}$	$\frac{1}{\sigma\sqrt{2\pi}}\int_{-\infty}^{x} e^{-\frac{(t-\mu)^2}{2\sigma^2}}dt$	$x \in R$	$u = \frac{x-\mu}{\sigma} \sim N(0, 1)$
$N(0, 1)$	$\frac{1}{\sqrt{2\pi}}e^{-\frac{u^2}{2}}$	$\frac{1}{\sqrt{2\pi}}\int_{-\infty}^{u} e^{-\frac{t^2}{2}}dt$ 1)	$u \in R$	1) $\phi(u)$ tabulated
$LN(\mu, \sigma^2)$	$\frac{1}{x\sigma\sqrt{2\pi}}e^{-\frac{(\ln x-\mu)^2}{2\sigma^2}}$	$\frac{1}{\sigma\sqrt{2\pi}}\int_{-\infty}^{x} \frac{1}{t}e^{-\frac{(\ln t-\mu)^2}{2\sigma^2}}dt$	$x > 0$	$u = \frac{\ln x-\mu}{\sigma} \sim N(0, 1)$

Note.: for continuous random variable $f(x) = F'(x)$