분포 이름	밀도 함수	x 의 범위	모수 공간	평균	분산	적률생성함수
이산형 균일 분포 (Discrete uniform)	$f(x)=\frac{1}{N}$	$x=1,\cdots,N$	$N=1,2,\cdots$	$\frac{N+1}{2}$	$\frac{N^2-1}{12}$	$\sum_{j=1}^{N}\frac{1}{N}e^{jt}$
베르누이 분포 (Bernoulli)	$f(x)=p^x q^{1-x}$	$x=0,1$	$0\le p\le 1$	p	pq	$q+pe^t$
이항 분포 (Binomial)	$f(x)=\binom{n}{x}p^x q^{n-x}$	$x=0,\cdots,n$	$0\le p\le 1$ $n=1,2,\cdots$	np	npq	$(q+pe^t)^n$
초기하 분포 (Hyper geometric)	$f(x)=\frac{\binom{K}{x}\binom{N-K}{n-x}}{\binom{N}{n}}$	$x=0,\cdots,n$	$N=1,2,\cdots$ $K=0,\cdots,N$ $n=1,\cdots,N$	$\frac{nK}{N}$	$\frac{nK}{N}\frac{N-K}{N}\frac{M-n}{M-1}$	
포아송 분포 (Poisson)	$f(x)=\frac{e^{-\lambda}\lambda^x}{x!}$	$x=0,1,\cdots$	$\lambda>0$	λ	λ	$\exp[\lambda(e^t-1)]$
기하 분포 (Geometric)	$f(x)=pq^{x-1}$	$x=1,2,\cdots$	$0<p\le 1$	$\frac{1}{p}$	$\frac{q}{p^2}$	$\frac{pe^t}{1-qe^t}$
음이항 분포 (Negative binomial)	$f(x)=\binom{x-1}{r-1}p^r(1-p)^{x-r}$	$x=r,\cdots$	$0<p\le 1$ $r>0$	$\frac{r}{p}$	$\frac{rq}{p^2}$	$(\frac{pe^t}{1-qe^t})^r$
균일 분포 (Uniform)	$f(x)=\frac{1}{b-a}$	$a<x<b$	$-\infty<a<b<\infty$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$	$\frac{e^{bt}-e^{at}}{(b-a)t}$
정규 분포 (Normal)	$f(x)=\frac{1}{\sqrt{2\pi}\sigma}e^{[\frac{-(x-\mu)^2}{2\sigma^2}]}$	$-\infty<x<\infty$	$-\infty<\mu<\infty$ $\sigma>0$	μ	σ^2	$\exp[\mu t+\frac{1}{2}\sigma^2 t^2]$
지수 분포 (Exponential)	$f(x)=\frac{1}{\beta}e^{-x/\beta}$	$0<x<\infty$	$\beta>0$	β	β^2	$\frac{1}{1-\beta t}$
감마 분포 (Gamma)	$f(x)=\frac{1}{\Gamma(\alpha)\beta^\alpha}x^{\alpha-1}e^{-x/\beta}$	$0<x<\infty$	$\alpha,\beta>0$	$\alpha\beta$	$\alpha\beta^2$	$(\frac{1}{1-\beta t})\alpha$

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베타 분포 (Beta)	$f(x) = \frac{1}{B(a,b)} x^{a-1}(1-x)^{b-1}$	$0 < x < 1$	$a > 0$ $b > 0$	$\frac{a}{a+b}$	$\frac{ab}{(a+b+1)(a+b)^2}$	
코쉬 분포 (Cauchy)	$f(x) = \frac{1}{\pi\beta\{1+[(x-a)/\beta]^2\}}$	$-\infty < x < \infty$	$-\infty < \alpha < \infty$ $\beta > 0$			
대수 정규 분포 (Log normal)	$f(x) = \frac{1}{x\sigma\sqrt{2\pi}} e^{\frac{-(\ln x-\mu)^2}{2\sigma^2}}$	$0 < x < \infty$	$-\infty < \mu < \infty$ $\sigma > 0$	$e^{\mu+\frac{1}{2}\sigma^2}$	$e^{2\mu+2\sigma^2} - e^{2\mu+2\sigma^2}$	
이중 지수 분포 (Double exponential)	$f(x) = \frac{1}{2\beta}\exp(-\frac{\|x-\alpha\|}{\beta})$	$-\infty < x < \infty$	$-\infty < \alpha < \infty$ $\beta > 0$	α	$2\beta^2$	$\frac{e^{\alpha t}}{1-(\beta t)^2}$
와이블 분포 (Weibull)	$f(x) = \frac{\gamma}{\beta} x^{\gamma-1} \exp[-x^{\gamma}/\beta]$	$0 < x < \infty$	$a > 0$ $b > 0$	$\beta^{-\frac{1}{\gamma}}\Gamma(1+\gamma^{-1})$	$\beta^{-\frac{2}{\gamma}}[\Gamma(1+2\gamma^{-1}) - \Gamma^2(1+\gamma^{-1}$	$E[X^t] = \beta^{-\frac{t}{\gamma}}\Gamma(1+\frac{t}{\gamma})$
$t-$분포	$f(x) = \frac{\Gamma[(n+1)/2]}{\Gamma(n/2)} \times$ $\frac{1}{\sqrt{n\pi}} \frac{1}{(1+x^2/n)^{(n+1)/2}}$	$-\infty < x < \infty$	$n > 0$	$\mu = 0$ $n > 1$	$\frac{n}{n-2}$ $n > 2$	
$F-$분포	$f(x) = \frac{\Gamma[(m+n)/2]}{\Gamma(m/2)\Gamma(n/2)} \left(\frac{m}{n}\right)^{\frac{m}{2}} \times$ $\frac{x^{(m-2)/2}}{[1+(m/n)x]^{(m+n)/2}}$	$0 < x < \infty$	$m, n = 1, 2, \cdots$	$\frac{n}{n-2}$ $n > 2$	$\frac{2n^2(m+n-2)}{m(n-2)^2(n-4)}$ $n > 4$	
카이제곱 분포 (Chi-square)	$f(x) = \frac{1}{\Gamma(r/2)(2)^{r/2}} x^{r/2-1} e^{-\frac{1}{2}x}$	$0 < x < \infty$	$n = 1, 2, \cdots$	n	$2n$	$(\frac{1}{1-2t})^{r/2}$