1 List of Helpers

1.1 Relations

`X \Equidistributed Y:` $X \overset{d}{=} Y$
`X \ConvergesAlmostSurely Y:` $X \xrightarrow{a.s.} Y$
`X \ConvergesProbability Y:` $X \xrightarrow{p} Y$
`X \ConvergesRmean Y:` $X \xrightarrow{r} Y$
`X \ConvergesDistrubution Y:` $X \xrightarrow{d} Y$
`\X \sim \Normal(0,1):` $X \sim \mathcal{N}(0,1)$

1.2 Sets

`\NN:` $\mathbb{N}$
`\ZZ:` $\mathbb{Z}$
`\RR:` $\mathbb{R}$
`\CC:` $\mathbb{C}$
`\HS:` $\mathcal{H}$
`\XS:` $\mathcal{X}$
`\ZS:` $\mathcal{Z}$
`\TS:` $\mathcal{T}$
`\Normal:` $\mathcal{N}$

1.3 Operators

`\abs{X}:` $|X|$
`\argmax{X}:` $\underset{X}{argmax}$
`\argmin{X}:` $\underset{X}{argmin}$
`\prob{X}:` $p(X)$
`\cprob{X}{Y}:` $p(\,X|Y\,)$
`\ndist{\mu}{\sigma}:` $\mathcal{N}(\mu,\sigma)$
`\Ordo{n^k}:` $\mathcal{O}\big(n^k\big)$
`\interval{a}{b}:` $[a,b]$
`\Expected[X]:` $\mathrm{E}\left[X\right]$
`\Expected\bigl[\frac{X}{Y}\bigr]:` $\mathrm{E}\left[\frac{X}{Y}\right]$
`\Variance(X):` $\mathrm{Var}\left(X\right)$
`\CoVariance(X,Y):` $\mathrm{Cov}\left(X,Y\right)$
`\Correlation(X,Y):` $\mathrm{Corr}\left(X,Y\right)$

1.4 Matrices

`\begin{vmatrix}1&0\\0&1\end{vmatrix}:` $\begin{vmatrix}1&0\\0&1\end{vmatrix}$

`\begin{Vmatrix}1&0\\0&1\end{Vmatrix}:` $\begin{Vmatrix}1&0\\0&1\end{Vmatrix}$

`\begin{pmatrix}1&0\\0&1\end{pmatrix}:` $\begin{pmatrix}1&0\\0&1\end{pmatrix}$

`\begin{bmatrix}1&0\\0&1\end{bmatrix}:` $\begin{bmatrix}1&0\\0&1\end{bmatrix}$

`\begin{Bmatrix}1&0\\0&1\end{Bmatrix}:` $\begin{Bmatrix}1&0\\0&1\end{Bmatrix}$

`\begin{smallmatrix}1&0\\0&1\end{smallmatrix}:` $\begin{smallmatrix}1&0\\0&1\end{smallmatrix}$

1.5 Braces

`z=\overbrace{\underbrace{x}_\text{real}+\underbrace{iy}_\text{imag}}^\text{complex}:`

$z=\overbrace{\underbrace{x}_{\text{real}}+\underbrace{iy}_{\text{imag}}}^{\text{complex}}$

`\dots=\underline{\text{answer}}:` $\dots=\underline{\text{answer}}$