

## 1 Logic

$A = \{x \mid P(x)\}$	<code>\set</code>	set builder notation
$A \cup B$	<code>\cup</code>	set union
$A \cap B$	<code>\cap</code>	set intersection

## 2 Probability

$\Pr(\cdot)$	<code>\Pr</code>	probability
$E(\cdot)$	<code>\E</code>	expectation
$E(\cdot \cdot)$	<code>\E( )</code>	conditional expectation
$\text{var}(\cdot)$	<code>\var</code>	variance (matrix)
$\text{cov}(\cdot, \cdot)$	<code>\cov</code>	covariance (matrix)
$\text{corr}(\cdot, \cdot)$	<code>\corr</code>	correlation (matrix)

## 3 Inference

$\sim$	<code>\distr</code>	is distributed as
$\overset{a}{\sim}$	<code>\adistr</code>	is asymptotically distributed as
$L(\theta)$	<code>\L(\vtheta)</code>	likelihood function
$\ell(\theta)$	<code>\elll</code>	log-likelihood function
$\mathcal{H}(\theta)$	<code>\Hesmat</code>	Hessian matrix
$\mathcal{I}$	<code>\Infmat</code>	(Fisher) information matrix
$\xrightarrow{p}$	<code>\pto</code>	converges in probability
$\xrightarrow{d}$	<code>\dto</code>	converges in distribution
$\text{plim}$	<code>\plim</code>	probability limit

## 4 Matrix Algebra

$\mathbf{a}$	<code>\va</code>	vector
$\beta$	<code>\vbeta</code>	vector with greek letter
$\mathbf{A}$	<code>\mA</code>	matrix
$\Omega$	<code>\mOmega</code>	matrix with greek letter

## 5 Calculus

$\frac{df}{dx}$	<code>\set</code>	first derivative
$\frac{d^2f}{dx^2}$	<code>\set</code>	first derivative
$\frac{\partial f}{\partial x}$	<code>\set</code>	first derivative
$\frac{\partial^2 f}{\partial x^2}$	<code>\set</code>	first derivative
$\frac{\partial^2 f}{\partial x \partial x}$	<code>\set</code>	first derivative