latex-math Macros

compiled: 2021-10-17

Latex macros like **\frac{#1}{#2}** with arguments are displayed as $\frac{\#1}{\#2}.$

${\bf Contents}$

basic-math 2

basic-math

$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Macro	Notation	Comment
\[\begin{array}{c c c c c c c c c c c c c c c c c c c	/N	${ m I\!N}$	N defined by "siunitx" (which we use), for "NEWTON"
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	\N	${ m I\!N}$	
\text{NR} \text{R} \text{R} \text{R}, reals} \(\text{C} \text{Space of continuous functions} \text{M} \text{M} \text{M} \text{maximum error} \text{xt} \text{\$\bar{x}\$} \text{x} \text{x} \text{tide} \text{V} \text{sign} \text{sign} \text{sign} \text{sign, signum} \text{VII} \text{I} \text{I}, indicator} \text{VInd} \text{1} \text{I}, indicator} \text{VInd} \text{1} \text{I}, indicator} \text{VInd} \text{0} \text{0} \text{0}	\Z	${\mathbb Z}$	Z, integers
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\lambda I 1, indicator \text{Order} \text{O} \text{O}, order \text{Op} \frac{\partial}{\partial} \text{partial} \text{derivative} \text{Vap} \frac{\partial}{\partial} \text{partial} \text{derivative} \text{vap} \text{vap} \text{partial} \text{derivative} \text{vap} \text{vap} \text{vap} \text{vap} \text{vap} \text{vap} \text{vap} \text{vap} \qu			
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$\begin{array}{llllllllllllllllllllllllllllllllllll$		$\frac{\partial \#2}{\partial \#1}$	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	\pd	$\frac{\partial \#1}{\partial \#2}$	partial derivative
$\begin{array}{llllllllllllllllllllllllllllllllllll$	\sumin	$\sum_{i=1}^{n}$	summation from $i=1$ to n
$\begin{array}{llllllllllllllllllllllllllllllllllll$	\sumjp	$\sum_{j=1}^{p}$	summation from j=1 to p
$\begin{array}{llllllllllllllllllllllllllllllllllll$	\sumik	$\sum_{i=1}^{k}$	summation from $i=1$ to k
$\begin{array}{llllllllllllllllllllllllllllllllllll$	\sumkg	$\sum_{k=1}^{g}$	summation from $k=1$ to g
$\begin{array}{llllllllllllllllllllllllllllllllllll$	\sumjg	$\sum_{j=1}^{g}$	summation from $j=1$ to g
$\begin{array}{llllllllllllllllllllllllllllllllllll$	\meanin	$\frac{1}{n} \sum_{i=1}^{n}$	mean from $i=1$ to n
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	\meankg	$\frac{1}{g}\sum_{k=1}^{g}$	mean from $k=1$ to g
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	\prodin	$\prod_{i=1}^{n}$	product from $i=1$ to n
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	\prodkg	$\prod_{k=1}^{g}$	product from $k=1$ to g
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	\prodjp		product from $j=1$ to p
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$ \begin{array}{llllllllllllllllllllllllllllllllllll$	\zero	0	
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	\id	$oldsymbol{I}$	I, identity
$\label{eq:localization} $\operatorname{tr} & \operatorname{tr}, \operatorname{trace} \\ \operatorname{spn} & \operatorname{span} & \operatorname{span} \\ \operatorname{scp} & \left\langle \#1, \#2 \right\rangle & <.,.>, \operatorname{scalar product} \\ \operatorname{Amat} & \mathbf{A} & \operatorname{matrix} & \mathbf{A} \\ \operatorname{xv} & \mathbf{x} & \operatorname{vector} & \mathbf{x} & \operatorname{(bold)} \\ \operatorname{xtil} & \tilde{\mathbf{x}} & \operatorname{vector} & \mathbf{x} - \operatorname{tilde} & \operatorname{(bold)} \\ \operatorname{xb} & \mathbf{x} & \operatorname{WE} & \operatorname{SHOULD} & \operatorname{NOT} & \operatorname{USE} & \operatorname{THIS} \\ \operatorname{yv} & \mathbf{y} & \operatorname{vector} & \mathbf{y} & \operatorname{(bold)} \\ \operatorname{Deltab} & \boldsymbol{\Delta} & \operatorname{error} & \operatorname{term} & \operatorname{for} & \operatorname{vectors} \\ \end{aligned}$			
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yv y vector y (bold) \Deltab Δ error term for vectors			
\Deltab Δ error term for vectors			
	•		
	\P	\mathbb{P}	P, probability

\E	${ m I}\!{ m E}$	E, expectation
\var	Var	Var, variance
\cov	Cov	Cov, covariance
\corr	Corr	Corr, correlation
\normal	\mathcal{N}	N of the normal distribution
\iid	$\overset{i.i.d}{\sim}$	dist with i.i.d superscript
\distas	$\overset{\#1}{\sim}$	is distributed as
\ind		$\underline{} \underline{}, \dots$ is independent of