MATTALX symbol list

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Introduction

Browser and operating system

If you are using Windows, MatTalX in Google Chrome works very well. However, on a Linux based system, Firefox is recommended. MatTalX saves your work in progress, so you don't have to rewrite everything if you close the popup. As a Linux user, this feature works better on Firefox.

N.B. Every software renders unicode characters differently, this explains most bugs and weirdness.

Important differences with LaTeX

An important difference from LaTex is that you can't "build" a symbol in MatTalX (see "Combining symbols" in the table of content for nuance). As an example, $\stackrel{\text{def}}{=}$ in LaTeX.

Since MaTalX converts commands into UTF characters. Some expressions are impossible to build. As an example, $x^{x^{x}}$ couldn't work since everything has to fit in a line. The same goes for $\frac{1}{x^{x}}$ which can't work. If you need an expression like that, you can write $x^{x^{x}}$ and (a/b)/c/d, respectively.

$$\sum_{x} x^{x^x} \text{ vs } \sum_{\mathbf{x}} x^{\mathbf{x}}(x^{\mathbf{x}}(x^{\mathbf{x}}(x)))$$

Contact

If you find a bug or have any suggestion, please tell me via https://github.com/samueleblanc/MatTalX/issues

Tutorial

MatTalX is a simple extension; there are only four buttons.

- 1. If you press **Convert**, the text written in the first area will be translated, and the output will appear in the second area.
- 2. If you press **Copy text**, the text of the second area will be automatically copied on your clipboard so you can paste and send it afterward.
- 3. If you press **Clear**, it will erase both areas.
- 4. If you hover over the question mark ⑦ you will be able to see this document under "Documentation", the code under "Code (GitHub), and you can uncheck "Adjust spaces".

With "Adjust spaces" checked Input: x>y \land y\geq 0 \implies x>0 Output: $x>y \land y \ge 0 \Longrightarrow x>0$ Input: \Gamma (k) = \sum_{k=1} (2k^{2}+4) Output: $\Gamma(k) = \sum_{k=1} (2k^2+4)$ Input: x \equiv_{5} y Output: $x \equiv_5 y$

With "Mathematical font" checked, every character will be converted to its mathematical counterpart. For instance, f(x) = y outputs f(x) = y. If you do not want that, you can uncheck the button. Please note that it will also affect the greek alphabet since the letters alpha and beta will be α,β and α,β with the button checked and unchecked, respectively.

Finally, the button "Math mode" unchecked requires the user to manually enter math mode, with "\$", "\$\$" and "\[". It is, therefore, useful if one wants to embed symbols in the text, and not only output various symbols.

Example with "Math mode" unchecked:

Input: Let \$A \in M {mxn}(F)\$ be a matrix over a field \$F\$

Output: Let $A \in M_{m\times n}(F)$ be a matrix over a field F

To write subscript or superscript characters, start with "_" or "^", respectively. For instance, abc gives " abc " and ijk gives " ijk ". Other commands starts with "\" (e.g. \subset gives " c ")

Default shortcuts

Alt+M opens and closes <u>M</u>atTalX

Alt+I copies the text in the first box (<u>i</u>nput)

Alt+O copies the text in the second box (<u>o</u>utput)

Alt+C opens and closes the <u>c</u>ompletion box

Mathematics Unary and binary operators

+, -, \dotminus, \times	+, -, ÷, ×
\fracline, /, \div, \longdiv	/, /, ÷,)
\divideontimes, \smashtimes	※, ∗
\rtimes, \ltimes	⋈, ⋉
\rthree, \lthree	Κ, λ
#	#
!	!
\neg	٦

\sqrt[n]{x}, \sqrt{x}	$n x, \sqrt{x}$
\prod, \sum	Π, Σ
\cdot, \cdotp, \bullet	٠, ٠, •
\ast, \star, \circ, \diamond	*, ★, ∘, ◊
\pm, \mp	±, ∓

\wr	≀
\bowtie	M

\sin, \cos, \tan	sin, cos, tan
\arcsin, \arccos, \arctan	arcsin, arccos, arctan
\cot, \csc, \sec	cot, csc, sec

\arccot,	\arccsc,	\arcsec	arccot,	arcsc, arcsec

\ln, \log ln, log

\det	det
\rank	rank
\hermitian	-¦-

\grad	grad
\div	div
\curl	curl

\mod, \bmod	mod, mod
\pmod{n}	(mod n)

\cup, \cap	∪, ∩
\sqcup, \sqcap	⊔, □
\Cup, \Cap	⊎, ⋒
\sqCup, \sqCap	凹, 同
\cupplus	+
\setminus	\
\amalg	П

\oplus, \ominus	⊕, ⊖
\otimes, \odot, \oslash	\otimes , \odot , \oslash
\ocirc, \obullet, \oast	⊚, ⊙, ⊛

\operp, \oparallel, \oeq	$\mathbb{O},\mathbb{O}, \oplus$
\oplusIhrim, \oplusrhrim	⊕, ⊕
\otimeslhrim, \otimesrhrim	€,⊗
\boxplus, \boxminus	⊞, ⊟
\boxtimes, \boxdot	\boxtimes , \odot

Calculus

\int, \iint \iiint, \iiiint	∫, ∬, ∭, ∭
\oint, \oiint, \oiiint	∮, ∯, ∰
\intclockwise	∱
\ointclockwise, \ointctrclockwise	∲ , ∳
\sqint, \timesint	∮ , ⋠
\cupint, \capint	<i>y</i> , <i>f</i>
\fint	f
\overbarint, \underbarint	<u></u>

\sum, \osum, \sumint	∑, ∑, ≴
----------------------	---------

', ", \tprime	, , ,
\partial	д
\nabla	∇

\lim	lim
------	-----

Relation

=, \neq	=, ≠
\equiv, \superequiv	≡, ≣
\cong, \ncong	≅,≇
\approx	≈
\sim, \nsim, \simeq	~, ≁, ≌
\doteq, \eqdot, \def, \equest	≐, = , ^{def} , ?
\triangleq, \mquest, \dotequiv \triangleq , $\stackrel{\text{m}}{=}$, :	
\coloneqq, \eqqcolon	≔, ≕
<,>	<,>
\nless, \ngtr	≮,≯
\II, \gg, \III, \ggg	«,»,««,»»
\lquest, \rquest	₹, ⋠
\leq, \geq, \leqslant, \geqslant	≤, ≥, ≤, ≽
\lnsim, \gnsim	≲, ⋧
\Inapprox, \gnapprox	≨, ≩
\lneq, \gneq, \lneqq, \gneqq	\leq , \geq , \leq , \geq
\propto	\propto
:, \colon, \because, \therefore	:, :, v, :

\prec, \succ, \nprec, \nsucc	≺, ≻, ∤ , ∤
\preceq, \succeq	≼, ≽
\precneqq, \succneqq	≼ , ≩
\precnsim, \succnsim	ವ, ⋩
\precnapprox, \succnapprox	≈ , ≽

\in, \ni, \notin	∈, ∋, ∉
\subset, \supset	⊂, ⊃
\nsubset, \nsupset	⊄, ⊅
\subseteq, \supseteq	⊆, ⊇
\nsubseteq, \nsupseteq	⊈, ⊉
\Subset, \Supset	€, ∋
\sqsubset, \sqsupset	□, □
\sqsubseteq, \sqsupseteq	⊑, ⊒
\subsetplus, \supsetplus	⊊, ⊋
\osubset, \osupset	ල, ව
\pitchfork, \toppitch	ф , Т

\originalof, \imageof	⊶, ⊷
\multimap, \leftmultimap	-∘, ⊶
\uptack	î

\triangleleft, \triangleright	\lhd , \rhd
\trianglelefteq, \trianglerighteq	⊴,⊵
\ntriangleleft, \ntriangleright	∅, ⋫
\ntrianglelefteq, \ntrianglerighteq	⊉, ⊭

, \nmid	[, ∤
\emptyset	Ø
\min, \max	min, max

Delimiters

(,)	(,)
\llparenthesis, \rrparenthesis	(,)
{, }	{, }
\lBrace, \rBrace	{ , }}
[,]	[,]
\llbracket, \rrbracket	[,]
I	I
\langle, \rangle	\langle , \rangle
\llangle, \rrangle	$\langle\!\langle , \rangle\!\rangle$
\lceil, \rceil, \lfloor, \rfloor	[,], [,]

Logic

\exists, \nexists, \exists!	∃, ∄, ∃!
\land or \wedge, \lor or \vee	∧, ∨
\sqland, \sqlor	⋈, ⋈
\doublewedge, \doublevee	∧ , ₩
\curlywedge, \curlyvee	人, 丫
\forall	A
\invamp	28

\vdash, \dashv, \nvdash	⊣, ⊢, ⊁
\Dashv, \vDash, \nvDash	≒ , ⊨, ⊭
\dashV, \Vdash, \nVdash	⊣ I, ⊩, ⊁
\DashV, \VDash, \nVDash	⇒ I, ⊫, ⊯

\top, \bot	Τ, ⊥
\xor, \nand, \nor	$\underline{\vee},\overline{\wedge},\overline{\vee}$

\qed	•
\blacksquare, \square	■, □
\lightning	4

Geometry

\parallel, \nparallel, \vvvert, \nvvvert	, ∦, , #
\asymp	\asymp
\perp, \not{\perp}, \Perp	⊥, ⊥/, ⊥
\angle, \rightangle	∠, ⊾
\measuredangle, \sphericalangle	∡, ∢
\mid <i>or</i> , \nmid	 , ∤
\between	Ŏ

Arrows

\leftarrow, \rightarrow	←, →
\longrightarrow	\longrightarrow
\leftrightarrow	\leftrightarrow
\uparrow, \downarrow	↑,↓
\updownarrow	1
\nleftarrow, \nrightarrow	<i>↔</i> , <i>→</i>
\nleftrightarrow	
\Leftarrow, \Rightarrow	⇐, ⇒

\Leftrightarrow, \iff	\Leftrightarrow , \Longleftrightarrow
\Longleftarrow, \implies	⇐,⇒
\Uparrow, \Downarrow	↑ , ↓
\Updownarrow	\$
\nLeftarrow, \nRightarrow	≠ , ⇒
\nLeftrightarrow	#
\mapsto	\mapsto

\leftharpoonup, \leftharpoondown \leftarrow , \leftarrow \leftrightharpoons, \rightleftharpoons \Leftarrow , \rightleftharpoons \upharpoonleft, \upharpoonright 1, \tag{ \tag{ \tag{ \text{townharpoonright}}}} \downharpoonleft, \downharpoonright 1, \tag{ \text{townharpoonright}}
\upharpoonleft, \upharpoonright 1, \
\downharpoonleft, \downharpoonright \downharpoonright

\twoheadleftarrow, \twoheadrightarrow	≪-, →
\twoheaduparrow, \twoheaddownarrow	†, ↓
\leftleftarrows, \rightrightarrows	\Leftarrow , \Rightarrow
\upuparrows, \downdownarrows	↑↑, ↓↓
\leftrightarrows, \rightleftarrows	\iff , \rightleftharpoons
\hookleftarrow, \hookrightarrow	\leftrightarrow , \hookrightarrow
\looparrowleft, \looparrowright	₩, 9
\Lsh, \Rsh	√ 1, p→
\nwarrow, \nearrow	ζ, ͵͵
\searrow, \swarrow	`'\
\Lleftarrow, \Rrightarrow	€, ⇒

\leftarrowtail, \rightarrowtail	$\leftarrow\!$
\leftsquigarrow, \rightsquigarrow	⟨∿, ∿⟩
\leftrightsquigarrow	₹ \}
\circlearrowleft, \circlearrowright	o, d
\curvearrowleft, \curvearrowright	∽, ~
\tildeabovearrow, \tildebelowarrow	≃, ≂
\equalabovearrow	€

Fractions

\frac{1}{2}, \frac*{1}{2}	1/2, 1/2
\frac{f(x)}{g(x)}	(f(x)/g(x))

The difference between $\frac{a}{b}$ and $\frac{a}{b}$ is that $\frac{s}{a}$ if it doesn't exist, it will act as if you wrote $\frac{a}{b}$ and output at least three characters (numerator, division, denominator).

Chemistry

Introduction

To write a chemistry equation, you can start by writing **!chem** as the first word of the text. It won't automatically turn every letter in italics or "math style" (i.e. $f \rightarrow f$ instead of f) and it won't add spaces around "-, =, \equiv , \equiv " to allow the *drawing* of molecules.

ex:

 $\label{linear_condition} \emph{Input: } $$ \operatorname{CO}_{2}\longrightarrow O\above{:}\below{:}=C=O\above{:}\below{:} $$$

Output: $CO_2 \rightarrow \ddot{Q} = C = \ddot{Q}$

Also, ":" is equivalent to "\colon" with !chem, if you want it to be the same as without "! chem", use "\ratio" instead.

Symbols

\mddot (or :) F \above{:} \below{:} \mdot	:Ë:
\mddot Ca \longrightarrow Ca ^{2-}	:Ca → Ca²⁻

 $\mbox{\color and }\mbox{\color and }\mbox{\col$

For arrows, see table of content.

Matrix

\id1	[1]
\id2	$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$
\id3	$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$
\id4	\[\begin{bmatrix} 1000 \\ 0100 \\ 0010 \\ 0001 \end{bmatrix} \]
\idn	$\begin{bmatrix} 1 & 0 & \cdots & 0 \\ 0 & 1 & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & 1 \end{bmatrix}$

To make the matrix of your choice, write **!matrix** as the first word, and then write the one you want. As an example, "\id2" could be written as !matrix [1,0][0,1]

Other examples:

!matrix ...

[a,b,c][d,e,f][g,h,i]	$\left[\begin{array}{c} a \ b \ c \\ d \ e \ f \\ g \ h \ i \end{array}\right]$
[1,2,3][a,b,c]	$\left[\begin{array}{c} 1 \ 2 \ 3 \\ a \ b \ c \end{array}\right]$
[10,200,300][a,b,c-1]	10 200 300 a b c-1

If you want symbols in the matrix, you could do

Input : !matrix [2,3,\sigma][\frac*{1}{2}, 0,1]

Output:

 $\left[\begin{array}{cc}2&3&\sigma\\\frac{1}{2}&0&1\end{array}\right]$

It is recommended to uncheck "Mathematical font", since the automatic spacing will be better with the regular font.

Greek letters

A , α
B , β
Γ , γ
Δ, Δ, δ
Ε, ε, ε
Z , ζ
H , η
Θ, θ, ϑ
I , ι
Κ, κ, ν

\Lambda, \lambda	Λ, λ
\Nu, \nu	N, $ u$
\Xi, \xi	Ξ, ξ
\Omicron, \omicron	О, о
\Pi, \pi, \varpi	Π , π , ϖ
\Rho, \rho, \varrho	Ρ, ρ, ρ
\Sigma, \sigma, \varsigma	Σ , σ , ς
\Tau, \tau	T, $ au$
\Upsilon, \upsilon	Υ, υ
\Phi, \phi, \varphi	Φ, φ, φ
\Chi, \chi	Χ, χ
\Psi, \psi	Ψ , ψ
\Omega, \omega	Ω , ω

N.B. The font will be different if "Mathematical font" is unchecked.

Hebrew letters

\aleph	*
\beth	ב
\gimel	٦
\dalet	٦

Fonts

ABC abc 123	$ABC\ abc\ 123$
\mathbf{ABC abc 123}	$ABC\ abc\ 123$
\mathbf{\Alpha\alpha \Beta\beta}	Αα Ββ
\mathbb{ABC abc 123}	ABC abc 123
\mathfrak{ABC abc}	ABC abc
\mathcal{ABC abc}	\mathcal{ABC} abc
\mathbf{\mathfrak{ABC abc}}	ABC abc
\mathbf{\mathcal{ABC abc}}	\mathcal{ABC} abc
ABC abc 123	ABC abc 123
\textit{ABC abc 123}	□□□ □□□ 123
\textbf{ABC abc 123}	ABC abc 123
\texttt{ABC abc 123}	ABC abc 123
\textbf{\textit{ABC abc 123}}	ABC abc 123

\mathbb{\Pi \pi}	Ππ
\mathbb{\Gamma \gamma}	LQ
\mathbb{\Sigma}	\Sigma

These are the only greek letters in \mathbb as of v 2.0.3

Combining symbols

\hat{x}, \overline{y}, \underline{z}	$\hat{x}, \bar{y}, \underline{z}$
\acute{o}, \grave{u}	ó, ù
\breve{a}, \check{v}	$reve{a}, reve{v}$
\overfrown{nm}	$n\widehat{m}$
\oversmile{\rho\tau}	ŏτ
\undersmile{\mathbf{A}\mathbf{B}}	ĄB
\underarrow{xz}	<u>xz</u>
\underharpoon{\textbf{k}}	ķ
\tilde{\pi}	$ ilde{\pi}$
\tilde{uv}	\widetilde{uv}
\vec{e}	$ec{e}$
\hvec{\alpha}	$ec{lpha}$
\not{\perp}	Ш
\dot{x}, \ddot{y}	х, ÿ
p \above{x}	Ď
n \below{x}	ņ

Please note that \above{} and \below{} contains only a few possible arguments, most aren't available in unicode. But you can still do cool things like:

\sum_{i=}\above{n}_{0}k=(n+1)k $\rightarrow \sum_{i=0}^{n}k=(n+1)k$ (\above{}) will be assigned to the character before it.)

Some will give a bad rendering (e.g. $hat{A} \rightarrow A$). However, the symbol might be positioned adequately in some apps or websites. I recommend using the "regular" alphabet if the goal is to add hat, overline, etc. You can do so by doing $hat{text{A}}$ instead $\rightarrow \hat{A}$ vs \hat{A} .

Subscript and superscript

To write regular characters as subscript or superscript, simply start the word with a " $_$ " or " $^$ ", respectively.

x ^{abc123}, o ^{1+2=3}	$x^{abc123}, o^{1+2=3}$
y _{ijk456}, i _{2(3)=6}	$y_{\rm ij}$ k456, $i_{2(3)=6}$

Some characters are missing because they do not exist in unicode

ββ
Гүү
Δδ
3
^
θ
1
υ
Q
σ
φ φ
Χχ

^{\int}	l
^{= \neq}	=#
^{\circ} or °	0
^{\$} <i>or</i> ^{\dollar}	\$
_{\rightarrow}	_
^{\infty}_{\infty}	ω
^{\emptyset}	Ø

Chess & card games

\wking, \bking	.
\wqueen, \bqueen	≝, ¥
\wrook, \brook	I, I
\wbishop, \bbishop	Â, 1
\wknight, \bknight	₺, 🛦
\wpawn, \bpawn	Å, Å

\wspade, \bspade	♠,♠
\wheart, \bheart	♡, ♥
\wclub, \bclub	ಧಿ, ♣
\wdiamond, \bdiamond	◊, ♦

Money and currency

\dollar, \cent	\$, ¢
\euro, \franc, \ruble, \pound, \hryvnia	€, F, ₽, £, 2
\yen, \rupee, \won, \baht	¥, ₹, ₩, ₿
\lira, \tlira	๗, ₩
\peso	₽
\austral	*
\bitcoin	₿

Music

\halfnote, \fullnote, \doublenote	ار, م
\flat, \sharp, \natural	৳, ♯, ≒
\eightnote, \sixteenthnote, \quarternote	ل بر بر
\trebleclef	Ş

Box drawings

\boxur, \boxul, \boxdr, \boxdl	L, J , F, 7
\boxvr, \boxvl, \boxuh, \boxdh, \boxvh	├ , ┤ , ┴ , ┬ , ┼
\boxbfur, \boxbful, \boxbfdr, \boxbfdl	L, J, F, 7
\boxbfvr, \boxbfvl, \boxbfuh, \boxbfdh, \boxbfvh	├ , ┥, ┸, ┰, ┼
\boxUR, \boxUL, \boxDR, \boxDL	L, ᆁ, F, 귀
\boxVR, \boxVL, \boxUH, \boxDH, \boxVH	╠,╣,╩,╦,╬

Other symbols

\infty	œ
\iinfin, \tieinfty, \nvinfty	o., ∞, ф
\acidfree	∞
\radioactive, \biohazard	�, ﴿
\atom	2 €8
\hbar	\hbar
\wp	Ø
\ell	ę
\angstrom	Å

\mho	Ω
\dagger, \ddagger	†, ‡
\section, \paragraph	§, ¶
\textbullet, \bigbullet	•, •
\copyright, \registered	©, ®
/dc	Ą
\smile, \frown	∪ ,
\emdash	
\squaredots	::
\ldots, \cdots, \udots, \vdots, \ddots	,,, i,
\male, \female	ď, ዩ
\Hermaphrodite, \neuter	ợ ", γ
\femalemale	φ'
\malemale, \femalefemale	⊘ , ₽
\^, _	^,_

Space, line break, tab

```
Space: "\: "

Double spaces: "\; "

Triple spaces: "\quad "

Quadruple spaces: "\qquad "

Remove space: "\!" (usefull to cancel automatic spacing with "Adjust spaces")

Line break: "\\" or "\linebreak"

Tab: "\tab"
```

To skip multiple line, use " \vskip{1} ", " \vkip{2} ", … " \vskip{n} " To add multiple spaces, use " hspace{1} ", " \hspace{2} ", … " \hspace{n} " To add the same number of space as characters in a word (or in a command), use " \ phantom{abc} ", " ", etc. where outputs 3 spaces and \ phantom{\\int} outputs 1.

Also note that it's possible to uncheck "Adjust spaces" (more info in "Tutorial") and to make modifications, including adding or removing spaces, skipping a line, etc., once the converted text is in the second area.

Outside mathmode

\LaTeX, \TeX, \MatTalX	$L^{\mathrm{A}}T$ e $X,\ T$ e $X,\ M$ at T al X
\O, \o	Ø, ø
\L, \I	Ł, ł
\i, \j	I, J
\OE, \oe	Œ,œ
\AE, \ae	Æ,æ
\`{a},\'{e},\^{i},\"{o},\H{u},\~{y}	à, é, î, ö, ű, ỹ
$\u\{m\}, \v\{n\}, \r\{o\}, \=\{p\}, \.\{q\}$	т, ň, ỏ, р̄, q்
\c{c}, \k{k}, \b{b}, \d{d}	ç, ķ, <u>b</u> , ḍ
\textbf{abc}	abc
\textit{def}	def
\texttt{hij}	hij
\textbullet, \textbackslash	•,\
\section, \paragraph	§, ¶
\copyright, \registered	©,®
\today	April 8, 2023