MatTalX symbol list

v 0.3.0

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Content

Introduction

MatTalX uses, most of the time, the same command as LaTeX. Some important differences are, for instance, $\mathbb{R}$ is \mathbbR in MatTalX, instead of \mathbb{R} in LaTex. The same goes for $\boldsymbol{R}$ (and every other letter), which is obtained with \mathbfR instead of \mathbf{R}. However, for $\overline{x}$, $\hat{y}$ and $\underline{z}$, MatTalX uses x \overline, y \hat and z \underline as commands, instead of \overline{x}, \hat{y} and \underline{z}.

Another important change from LaTex is that you can't "build" a symbol in MatTalX. As an example, $\stackrel{\text{def}}{=}$ is simply \def in MatTalX, but \stackrel{\rm def}{=} in LaTex. As a last example, $\sqrt[3]{2}$ is \sqrt3 2 instead of \sqrt[3]{2}.

For fractions, since MatTalX renders symbol in UTF format, it is recommended to represent f(x) divided by g(x) as $f(x)/g(x)$ or $f(x)(g(x))^{-1}$. If it is a simple fraction (like one half), you can use \frac1/2 → ½, but it won't work for every fraction (see page 9). It is however possible to build your own fraction with ^1 \frac _2 → ½. It is also possible to use ^1 / _2, but \frac is better suited for "superscript over subscript".

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

Tutorial

It is important to know that every command, in MatTalX, must be separated by a space. For instance: \Pi, \pi → undefined π, but \Pi , \pi → Π, π. The difference is \Pi, and \Pi ,

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 that you can paste and send it afterwards.
3. If you press **Clear**, it will erase both areas.
4. If you hover over the question mark ⓘ you will be able to see this document under "Documentation", the code under "Code (GitHub) and you can uncheck "Remove spaces"
    a. With "Remove spaces" checked
    Input: x > y \land y \geq 0 \implies x > 0
    Output: $x>y \land y \geq 0 \implies x>0$
    Input: \Gamma (k) = \sum _k=1 (2k ^2 + 4)
    Output: $\Gamma(k) = \sum_{=1}(2k^2+4)$
    b. With "Remove spaces" unchecked
    Input: x > y \land y \geq 0 \implies x > 0
    Output: $x > y \land y \geq 0 \implies x > 0$
    Input: \Gamma (k) = \sum _k=1 (2k ^2 + 4)
    Output: $\Gamma (k) = \sum_{=1} (2k ^2 + 4)$

Mathematics

Unary and binary operators

+, -, \dotminus, \times	+, −, ∸, ×
\frac, /, \div, \longdiv	⁄, /, ÷, ⟌
\rtimes, \ltimes	⋊, ⋉
\rthree, \lthree	⋌, ⋋
#	#
!	!
\neg	¬

\sqrt, \sqrt3, \sqrt4	√, ∛, ∜
\prod, \sum	∏, ∑
\cdot	·
\ast, \star, \circ, \diamond	∗, ⋆, ∘, ◊
\pm, \mp	±, ∓

\wr	≀

\bowtie	⋈

\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

\mod	mod

\cup, \cap	∪ , ∩
\sqcup, \sqcap	⊔, ⊓
\Cup, \Cap	⋓, ⋒
\sqCup, \sqCap	⩏, ⩎
\cupplus	⊎
\setminus	∖
\amalg	⨿

\oplus, \ominus	⊕, ⊖
\otimes, \odot, \oslash	⊗, ⊙, ⊘
\boxplus, \boxminus	⊞, ⊟
\boxtimes, \boxdot	⊠, ⊡

Calculus

Integrals, sum, derivatives

\int, \iint \iiint, \iiiint	∫, ∬ , ∭, ⨌
\oint, \oiint, \oiiint	∮ , ∯, ∰
\intclockwise	∱
\ointclockwise, \ointctrclockwise	∲, ∳
\sqint, \timesint	⨖, ⨏
\cupint, \capint	⨌, ⨍

\fint	⨏
\overbarint, \underbarint	⨐, ⨑

\sum, \osum, \sumint	∑, ⨋, ⨌

‘, “, \tprime	′, ″, ‴
\partial	∂
\nabla	∇

\lim	lim

Relation

= , \neq	=, ≠
\equiv, \superequiv	≡, ≣
\cong, \ncong	≅, ≇
\approx	≈
\sim, \nsim, \simeq	~, ≁, ≃
\doteq, \eqdot, \def, \equest	≐, ≒, ≝, ≟
\triangleq, \mquest, \dotequiv	≜, ≞, ≑
<, >	<, >
\nless, \ngtr	≮, ≯
\ll, \gg, \lll, \ggg	≪, ≫, ⋘, ⋙
\lquest, \rquest	⩻, ⩼
\leq, \geq, \leqslant, \geqslant	≤, ≥, ⩽, ⩾
\lnsim, \gnsim	⋦, ⋧
\lnapprox, \gnapprox	⪉, ⪊
\lneq, \gneq, \lneqq, \gneqq	⪇, ⪈, ≨, ≩

\propto	$\propto$
:, \colon, \because, \therefore	$:$, $\colon$, $\because$, $\therefore$

\prec, \succ, \nprec, \nsucc	$\prec$, $\succ$, $\nprec$, $\nsucc$
\preceq, \succeq	$\preceq$, $\succeq$
\precneqq, \succneqq	$\precneqq$, $\succneqq$
\precnsim, \succnsim	$\precnsim$, $\succnsim$
\precnapprox, \succnapprox	$\precnapprox$, $\succnapprox$

\in, \ni, \notin	$\in$, $\ni$, $\notin$
\subset, \supset	$\subset$, $\supset$
\nsubset, \nsupset	$\nsubset$, $\nsupset$
\subseteq, \supseteq	$\subseteq$, $\supseteq$
\nsubseteq, \nsupseteq	$\nsubseteq$, $\nsupseteq$
\Subset, \Supset	$\Subset$, $\Supset$
\sqsubset, \sqsupset	$\sqsubset$, $\sqsupset$
\sqsubseteq, \sqsupseteq	$\sqsubseteq$, $\sqsupseteq$
\subsetplus, \supsetplus	$\subsetplus$, $\supsetplus$
\pitchfork, \toppitch	$\pitchfork$, $\toppitch$

\triangleleft, \triangleright	$\triangleleft$, $\triangleright$
\ntriangleleft, \ntriangleright	$\ntriangleleft$, $\ntriangleright$
\ntrianglelefteq, \ntrianglerighteq	$\ntrianglelefteq$, $\ntrianglerighteq$

|, \nmid	$\|$, $\nmid$

\emptyset	$\emptyset$

Delimiters

(,)	(,)
\llparenthesis, \rrparenthesis	⦇, ⦈
{, }	{, }
\lBrace, \rBrace	⦃, ⦄
[,]	[,]
\llbracket, \rrbracket	⟦, ⟧
|	|
\langle, \rangle	⟨, ⟩
\llangle, \rrangle	⟪, ⟫
\lceil, \rceil, \lfloor, \rfloor	⌈, ⌉, ⌊, ⌋

Logic

\exists, \nexists, \exists !	∃, ∄, ∃!
\land *or* \wedge, \lor *or* \vee	∧, ∨
\doublewedge, \doublevee	⩓, ⩔
\curlywedge, \curlyvee	⋏, ⋎
\forall	∀

\vdash, \dashv, \nvdash	⊣, ⊢, ⊬
\Dashv, \vDash, \nvDash	⫤, ⊨, ⊭
\dashV, \Vdash, \nVdash	⫣, ⊩, ⊮
\DashV, \VDash, \nVDash	⫤, ⊫, ⊯
\top, \bot	⊤, ⊥

\qed	∎

Geometry

\parallel, \nparallel, \vvvert, \nvvvert	$\parallel$, $\nparallel$, $\vvvert$, $\nvvvert$
\asymp	$\asymp$
\perp, \perp \not, \Perp	$\perp$, $\not\perp$, $\Perp$
\angle, \rightangle	$\angle$, $\rightangle$
\measuredangle, \sphericalangle	$\measuredangle$, $\sphericalangle$
|, \nmid	$\|$, $\nmid$
\between	$\between$

Arrows

\leftarrow *or* \<-, \rightarrow *or* \->	$\leftarrow$, $\rightarrow$
\longrightarrow *or* \-->	$\longrightarrow$
\leftrightarrow *or* \<->	$\leftrightarrow$
\uparrow, \downarrow	$\uparrow$, $\downarrow$
\updownarrow	$\updownarrow$
\nleftarrow, \nrightarrow	$\nleftarrow$, $\nrightarrow$
\nleftrightarrow	$\nleftrightarrow$
\Leftarrow *or* \<=, \Rightarrow *or* \=>	$\Leftarrow$, $\Rightarrow$
\Leftrightarrow *or* \<=>, \iff	$\Leftrightarrow$, $\iff$
\Longleftarrow, \implies	$\Longleftarrow$, $\implies$
\Uparrow, \Downarrow	$\Uparrow$, $\Downarrow$
\Updownarrow	$\Updownarrow$
\nLeftarrow, \nRightarrow	$\nLeftarrow$, $\nRightarrow$
\nLeftrightarrow	$\nLeftrightarrow$
\mapsto	$\mapsto$

\rightharpoonup, \rightharpoondown	⇀, ⇁
\leftharpoonup, \leftharpoondown	↼, ↽
\leftrightharpoons, \rightleftharpoons	⇋, ⇌
\upharpoonleft, \upharpoonright	↿, ↾
\downharpoonleft, \downharpoonright	⇂, ⇃

\twoheadleftarrow, \twoheadrightarrow	↞, ↠
\twoheaduparrow, \twoheaddownarrow	↟, ↡
\leftleftarrows, \rightrightarrows	⇇, ⇉
\upuparrows, \downdownarrows	⇈, ⇊
\leftrightarrows, \rightleftarrows	⇆, ⇄
\hookleftarrow, \hookrightarrow	↩, ↪
\looparrowleft, \looparrowright	↫,↬
\Lsh, \Rsh	↰, ↱
\nwarrow, \nearrow	↖, ↗
\searrow, \swarrow	↘, ↙
\Lleftarrow, \Rrightarrow	⇚, ⇛
\leftarrowtail, \rightarrowtail	↢, ↣
\leftsquigarrow, \rightsquigarrow	⇜ , ⇝
\leftrightsquigarrow	↭
\circlearrowleft, \circlearrowright	↺, ↻
\curvearrowleft, \curvearrowright	↶, ↷

Fractions

\frac1/2	½
\frac1/3, \frac2/3	⅓, ⅔
\frac1/5, \frac2/5, \frac3/5, \frac4/5	⅕, ⅖, ⅗, ⅘
\frac1/6, \frac5/6	⅙, ⅚

\frac1/7	
\frac1/8, \frac3/8, \frac5/8, \frac7/8	⅛, ⅜, ⅝, ⅞
\frac1/9	
\frac1/10	
\fraca/c, \fraca/s, \fracc/o, \fracc/u	𝒶/𝒸, 𝒶/𝓈, 𝒸/𝑜, 𝒸/𝓊

For any other simple fractions that are not on this list, you can create them with a superscript, a "/" and a subscript (e.g. ^53 \frac _19 → ⁵³⁄₁₉ *and* ^y \frac _x → ʸ⁄ₓ*). Like said earlier, it is possible to use "/", but "\frac" is better suited for that kind of division.*

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 letters in italic or "math style" (i.e. f → f instead of f). Also, it will make spaces around "+" and most often used arrows, like ⇌, ⟶ and more.

ex:

Input: $chem CO _2 \--> O \above: \below: = C = O \above: \below:
Output: $CO_2 \longrightarrow \ddot{O}=C=\ddot{O}$

Symbols

-, =, \tbond, \qbond	−, =, ≡, ≣

\mid: (*or* :) F \above: \below: \mid.	:F̈·
\mid: Ca \--> Ca ^2-	:Ca ⟶ Ca²⁻

For arrows, see page 8.

Greek letters

A, \alpha	A, α
B, \beta	B, β
\Gamma, \gamma	Γ, γ

\Delta, \delta	Δ, δ
E, \epsilon, \varepsilon	E, ϵ, ε
Z, \zeta	Z, ζ
H, \eta	H, η
\Theta, \theta, \vartheta	Θ, θ, ϑ
I, \iota	I, ι
K, \kappa, \varkappa	K, κ, $\varkappa$
\Lambda, \lambda	Λ, λ
N, \nu	N, ν
\Xi, \xi	Ξ, ξ
O, o	O, o
\Pi, \pi, \varpi	Π, π, ϖ
P, \rho, \varrho	P, ϱ, ϱ
\Sigma, \sigma, \varsigma	Σ, σ, ς
T, \tau	T, τ
\Upsilon, \upsilon	Υ, υ
\Phi, \phi, \varphi	Φ, ϕ, φ
X, \chi	X, χ
\Psi, \psi	Ψ, ψ
\Omega, \omega	Ω, ω

Fonts

A, a, … z	A, a, … z
\A, \a, … \z	A, a, … z
\mathbfA, \mathbfa, … \mathbfz	$\mathbf{A}$, $\mathbf{a}$, ... $\mathbf{z}$
\mathbbA, \mathbba, … \mathbbz	$\mathbb{A}$, $\mathbb{a}$, ... $\mathbb{z}$

0, 1, … 9	0, 1, ... 9
\mathbf0, \mathbf1, … \mathbf9	**0**, **1**, ... **9**
\mathbb0, \mathbb1, … \mathbb9	𝟘, 𝟙, ... 𝟡

Greek letters

\mathbbPi, \mathbbpi	ℿ, ⅀
\mathbbGamma, \mathbbgamma	ℾ, ℽ
\mathbbSigma	⅀

** These are the only one as of v 0.1.1*

\mathbfalpha, … \mathbfomega	$\boldsymbol{\alpha}$, ... $\boldsymbol{\omega}$

Every greek letters that exists in the regular font exists in mathbf

Combining symbols

x \hat, y \overline, z \underline	$\hat{x}$, $\overline{y}$, $\underline{z}$
a \ooverline a, b \uunderline b	$\overline{a}\overline{a}$, $\underline{b}\underline{b}$
n \overfrown m	$n\overset{\frown}{m}$
\rho \oversmile \tau	$\varrho\overset{\smile}{\tau}$
\mathbfA \undersmile \mathbfB	$\boldsymbol{A}\underset{\smile}{\boldsymbol{B}}$
\pi \tilde	$\tilde{\pi}$
u \ttilde v	$u\widetilde{v}$
e \vec	$\vec{e}$
\perp \not	$\perp\!\!\!/$

In other words, simply add the command that you want to apply after the letter (or between the letters). It works with every letter, including the Greek alphabet. You can also apply them to symbols, like \perp \not seen above.

Some will give a bad rendering (e.g. A \hat → $A\hat{}$). However, the symbol might be positioned adequately in some app or website. I recommend the use of the "regular" alphabet if the goal is to add hat, overline, etc. You can do so by doing \A \hat instead ("\" before the letter) → Â vs $A\hat{}$.

Subscript and superscript

x ^abc123, o ^1+2=3	x^{abc123}, $o^{1+2=3}$
y _ijk456, i _2(3)=6	y_{ijk456}, $i_{2(3)=6}$

Some characters are missing because they do not exist in unicode

\^beta, _beta	ᵝ, ᵦ
\^Gamma, \^gamma, _gamma	ᶾ, ᵞ, ᵧ
\^Delta, \^delta	ᐞ, ᵟ
\^epsilon	ᵋ
\^Lambda	ᶺ
\^Theta	ᶿ
\^iota	ᶥ
\^nu	ᵘ
_rho	ᵨ
\^phi, _phi	ᵠ, ᵩ
\^chi, _chi	ᵡ, ᵪ

\^int	ᶴ

It is also possible to combine a subscript and a superscript above (e.g. $\sum^{m}$). It however almost always looks horrible. Nonetheless, here is a list of symbols that you *might* be able to put above a letter or subscript.

a \overa, c \overc, … x \overx	$\overset{a}{}$, $\overset{c}{}$, … $\overset{x}{}$
_m \overm, _v \overv	$\underset{m}{}$, $\underset{v}{}$

The list of latin letters that you can add after \over is: a, c, d, e, h, i, k, m, n*, o, r, t, u, v, x.*
** It only works on certain devices, websites or apps.*

\overinf can also be used to put ∞ above a symbol, but it works on few devices, websites or apps.

Chess & card games

\wking, \bking	♔, ♚
\wqueen, \bqueen	♕, ♛
\wrook, \brook	♖, ♜
\wbishop, \bbishop	♗, ♝
\wknight, \bknight	♘, ♞
\wpawn, \bpawn	♙, ♟

\wspade, \bspade	♤, ♠
\wheart, \bheart	♡, ♥
\wclub, \bclub	♧, ♣
\wdiamond, \bdiamond	♢, ♦

Money and currency

\dollar, \cent	$, ¢
\euro, \franc, \ruble, \pound, \hryvnia	€, ₣, ₽, £, ₴
\yen, \rupee, \won, \baht	¥, ₹, ₩, ฿
\lira, \tlira	₪, ₩
\peso	₱
\austral	₳
\bitcoin	₿

Music

\flat, \natural, \sharp	♭, ♮, ♯
\eightnote, \sixteenthnote	♪, ♬
\quarternote, \halfnote	♩, 𝅗𝅥
\fullnote, \doublenote	𝅝, 𝅗𝅥𝅗𝅥
\trebleclef	𝄞

Other symbols

\infty	∞
\iinfin, \tieinfty, \nvinfty	∾, ⧜, ⧞
\acidfree	♾
\hbar	ℏ
\wp	℘
\ell	ℓ
\dagger, \ddagger	†, ‡
\section, \paragraph, \bullet	§, ¶, •
\copyright, \registered	©, ®
\qc	⚜
\smile, \frown	⌣, ⌢
\emdash	—
\squaredots	::
\ldots, \cdots, \udots, \vdots, \ddots	…, ⋯, ⋰, ⋮, ⋱
\male, \female	♂, ♀
\Hermaphrodite, \neuter	⚥, ⚲
\femalemale	⚣
\malemale, \femalefemale	⚢, ⚤

Space, line break, tab

Space : “ \: ”
Line break : “ \\ ”
Tab : “ \tab ”

Also note that it’s possible to uncheck “Remove 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.