# The fusioncategories package*

Jacob C. Bridgeman
jcbridgeman.github.io
jcbridgeman1@gmail.com

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**Abstract**

The fusioncategories package is a package for typesetting fusion category data. This document provides a brief overview of the pacakge and its features.

## Contents



*This document corresponds to fusioncategories v0.1.1, dated 2024-07-28.

# The **fusioncategories** package

## 1 Options

`delimiter` `default: ,`

Sets the delimiter for the subscripts, superscripts, left indices, and right indices.

## 2 Functions

`\NewSymbol` `\RenewSymbol` `\ProvideSymbol` `\DeclareSymbol`

`\NewSymbol[`⟨*Symbol text*⟩`]{`⟨*Symbol name*⟩`}{`⟨*subscripts?*⟩`}{`⟨*superscripts?*⟩`}{`⟨*left indices?*⟩`}{`⟨*right indices?*⟩`}`

Creates a new symbol command with the specified argument types. For example,:

`\NewSymbol{N}{true}{true}{}{}` creates the command:
`\NSymbol`, which can be used as follows:
`\NSymbol{a,b}{c}` produces: $N^{c}_{ab}$.

`\NewSymbol[\tilde{X}]{tX}{true}{}{}{true}` creates the command:
`\tXSymbol`, which can be used as follows:
`\tXSymbol{a,b}{\mu}` produces: $\left[\tilde{X}_{ab}\right]^{\mu}$.

`\NewSymbol{\Gamma}{true}{}{}{}` creates the command:
`\GammaSymbol`, which can be used as follows:
`\GammaSymbol{a,b}` produces: $\Gamma_{ab}$.

Arguments that are wanted should marked with `1` or `true`, and arguments that are not wanted must be left blank or marked with `false`.

All commands created with `\NewSymbol` also accept an optional star argument to place an overline over the symbol.

nly create a new symbol command if the command does not already exist, otherwise it will throw an error.

verwrite an existing symbol command with the same name. If the command does not exist, it will throw an error.

reate a new symbol command if the command does not already exist, otherwise it will do nothing.

reate a new symbol regardless of whether the command already exists. If the command already exists, it will overwrite the existing command without warning.

\NSymbol `\NSymbol[⟨options⟩]{⟨subscripts⟩}{⟨superscripts⟩}`

Produces a symbol with the specified subscripts and superscripts.

`\NSymbol{a,b}{c}` produces: $N^{c}_{ab}$.

\XSymbol `\XSymbol[⟨options⟩]{⟨subscripts⟩}{⟨superscripts⟩}{⟨right indices⟩}`

Produces a symbol with the specified subscripts, superscripts, and right indices.

`\XSymbol{a,b}{c}{\alpha}` produces: $[X^{c}_{ab}]^{\alpha}$.

\FSymbol `\FSymbol[⟨options⟩]{⟨subscripts⟩}{⟨superscripts⟩}{⟨left indices⟩}{⟨right indices⟩}`

Produces a symbol with the specified subscripts, superscripts, left indices, and right indices.

`\FSymbol{a,b,c}{d}{\alpha,e,\beta}{\mu,f,\nu}` produces: ${}^{\beta}_{e}{}^{\nu}_{\alpha}\left[F^{d}_{abc}\right]^{f}_{\mu}$.

`\FSymbol*{a,b,c}{d}{\alpha,e,\beta}{\mu,f,\nu}` produces: ${}^{\beta}_{e}{}^{\nu}_{\alpha}\left[\overline{F^{d}_{abc}}\right]^{f}_{\mu}$.

\RSymbol `\RSymbol[⟨options⟩]{⟨subscripts⟩}{⟨superscripts⟩}{⟨left indices⟩}{⟨right indices⟩}`

Produces a symbol with the specified subscripts, superscripts, left indices, and right indices.

`\RSymbol{a,b}{c}{\alpha}{\beta}` produces: ${}^{\alpha}[R^{c}_{ab}]^{\beta}$.

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The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

# Change History