lstEventB.sty

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1. lstEventB.sty

lstEventB.sty is a LaTeX package for listing Event-B models. It was developed at the University of Southampton.

2. User Guide

2.1 Package Loading

Just like any other package, you need to request this package with a `usepackage` command in the preamble. So in the simpler case (i.e., without any options), one just types

```
\usepackage{lstEventB}
```

to load the package

2.2 Package Options

lstEventB.sty currently support the following options

- `colour` | `color` : Enable the colours for Event-B code.

2.3 Typsetting Event-B Code

The current supported syntax is from CamilleX. In particular, the Event-B mathematical symbols can be typeset using Unicode symbols. Alternatively, the mathematical symbols can be typeset using ASCII combinations (similar to the Event-B Summary, with the exception that the text combinations must be prefixed by `!` (this is to prevent unintended translation of text in longer words). Some other symbols, e.g. `.` and `|` also need to be `!`-prefixed.

2.3.1 Predicate-related Symbols

The following table shows the ASCII input for typesetting predicate-related symbols.

ASCII	Symbols	Explanation
`!false`	$\bot$	False
`!true`	$\top$	True
`&`	$\land$	Conjunction
`!or`	$\lor$	Disjunction
`=>`	$\Rightarrow$	Implication
`<=>`	$\Leftrightarrow$	Equivalence
`!not`	$\neg$	Negation
`!`	$\forall$	Universal quantification
`#`	$\exists$	Existential quantification
`!.`	.	Quantification dot
`=`	$=$	Equality
`/=`	$\neq$	Inequality

2.3.2 Set-related Symbols

The following table shows the ASCII input for typesetting set-related symbols.

ASCII	Symbols	Explanation
{}	$\varnothing$	Empty set
|	$\mid$	Vertical bar, e.g., in set comprehension
\/	$\cup$	Union
/\	$\cap$	Intersection
\	$\setminus$	Set difference
|->	$\mapsto$	Ordered pair
**	$\times$	Cartesian product
!POW	$\mathbb{P}$	Powerset
!POW1	$\mathbb{P}_1$	Non-empty subsets
!card	card	Cardinality
!union	union	Generalised union
!inter	inter	Generalised intersection
!UNION	$\bigcup$	Quantified union
!INTER	$\bigcap$	Quantified intersection