

IstEventB.sty

None

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None

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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
<code>!false</code>	\perp	False
<code>!true</code>	\top	True
<code>&</code>	\wedge	Conjunction
<code>!or</code>	\vee	Disjunction
<code>=></code>	\Rightarrow	Implication
<code><=></code>	\Leftrightarrow	Equivalence
<code>!not</code>	\neg	Negation
<code>!</code>	\forall	Universal quantification
<code>#</code>	\exists	Existential quantification
<code>!.</code>	\cdot	Quantification dot
<code>=</code>	$=$	Equality
<code>/=</code>	\neq	Inequality

```
{:height="700px" width="400px"}
```

2.3.2 Set-related Symbols

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

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

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