

# IstEventB.sty

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None

*Thai Son Hoang*

*None*

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# 1. lstEventB.sty

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`lstEventB.sty` is a LaTeX package for listing [Event-B](#) models. It was developed at the [University of Southampton](#).

## 2. User Guide

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### 2.1 Package Loading

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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

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`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>&amp;</code>	$\wedge$	Conjunction
<code>!or</code>	$\vee$	Disjunction
<code>=&gt;</code>	$\Rightarrow$	Implication
<code>&lt;=&gt;</code>	$\Leftrightarrow$	Equivalence
<code>!not</code>	$\neg$	Negation
<code>!</code>	$\forall$	Universal quantification
<code>#</code>	$\exists$	Existential quantification
<code>!.</code>	$.$	Quantification dot
<code>=</code>	$=$	Equality
<code>/=</code>	$\neq$	Inequality

## 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>\&amp;</code>	$\cap$	Intersection
<code>\</code>	$\setminus$	Set difference
<code>  -&gt;</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>	$\text{card}$	Cardinality
<code>!union</code>	$\text{union}$	Generalised union
<code>!inter</code>	$\text{inter}$	Generalised intersection
<code>!UNION</code>	$\bigcup$	Quantified union
<code>!INTER</code>	$\bigcap$	Quantified intersection