# The LaTeX symbol fonts for use with LaTeX 2ε.*

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> This file is maintained by the LaTeX Project team.
> Bug reports can be opened (category `latex`) at
> https://latex-project.org/bugs.html.

# 1 Introduction

This file defines the package `latexsym` which makes the few additional characters available that come from the `lasy` fonts (LaTeX's symbol fonts). These fonts are not automatically included in the NFSS2/LaTeX 2ε since they take up important space and aren't necessary if one makes use of the packages `amsfonts` or `amssymb`.

The commands defined by the `latexsym` package are:

`\mho` ℧  `\Join` ⋈  `\Box` □  `\Diamond` ◇  `\leadsto` ⇝
`\sqsubset` ⊏  `\sqsupset` ⊐  `\lhd` ◁  `\unlhd` ⊴  `\rhd` ▷
`\unrhd` ⊵

# 2 The DOCSTRIP modules

The following modules are used in the implementation to direct DOCSTRIP in generating the external files:

|         |                                      |
|---------|--------------------------------------|
| driver  | produce a documentation driver file  |
| package | produce a package file               |
| fd      | produce a font definition file       |

# 3 The Implementation

The individual files generated from this code are identified at the very top of this file by a couple of lines looking like this:

```
%<fd>\ProvidesFile{Ulasy.fd}
%<-driver>              [????/??/?? v2.2?
%<package>                   Standard LaTeX package (lasy symbols)]
%<fd>             LaTeX symbol font definitions]
```

1 ⟨∗package⟩

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*This file has version number v2.2e, dated 1998/08/17.

`\symlasy` It is possible to detect whether or not the LaTeX symbols are already defined by checking for the math group number with the name `\symlasy`.

In that case we exit but write a message to the transcript file.

```
2 \ifx\symlasy\undefined \else
3   \wlog{Package latexsym: nothing to set up^^J}%
4   \endinput \fi
```

Otherwise we define the new symbol font.

```
5   \DeclareSymbolFont{lasy}{U}{lasy}{m}{n}
6   \SetSymbolFont{lasy}{bold}{U}{lasy}{b}{n}
```

Because the lasy symbols are made an error in the format we have to undefine them before we can set them anew with `\DeclareMathSymbol`.

```
7   \let\mho\undefined            \let\sqsupset\undefined
8   \let\Join\undefined           \let\lhd\undefined
9   \let\Box\undefined            \let\unlhd\undefined
10  \let\Diamond\undefined        \let\rhd\undefined
11  \let\leadsto\undefined        \let\unrhd\undefined
12  \let\sqsubset\undefined
13  \DeclareMathSymbol\mho     {\mathord}{lasy}{"30}
14  \DeclareMathSymbol\Join    {\mathrel}{lasy}{"31}
15  \DeclareMathSymbol\Box     {\mathord}{lasy}{"32}
16  \DeclareMathSymbol\Diamond {\mathord}{lasy}{"33}
17  \DeclareMathSymbol\leadsto {\mathrel}{lasy}{"3B}
18  \DeclareMathSymbol\sqsubset{\mathrel}{lasy}{"3C}
19  \DeclareMathSymbol\sqsupset{\mathrel}{lasy}{"3D}
20  \DeclareMathSymbol\lhd     {\mathbin}{lasy}{"01}
21  \DeclareMathSymbol\unlhd   {\mathbin}{lasy}{"02}
22  \DeclareMathSymbol\rhd     {\mathbin}{lasy}{"03}
23  \DeclareMathSymbol\unrhd   {\mathbin}{lasy}{"04}
```

To save some space we can remove the definition of `\not@base` since it isn't any longer needed. (We use `\@undefined` so that gives an error and not a recursive definition if it is still used somewhere.)

```
24  \let\not@base\@undefined
25 ⟨/package⟩
```

## 3.1 LaTeX symbols fonts

The rest of this file defines the font shape declarations that have to go into the corresponding `.fd` file.

```
26 ⟨*fd⟩
27 \DeclareFontFamily{U}{lasy}{}
28 \DeclareFontShape{U}{lasy}{m}{n}{ <5> <6> <7> <8> <9> gen * lasy
29      <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88>lasy10  }{}
```

Since there are no bold lasy symbols below 10pt we silently substitute them by the medium ones to avoid terminal warnings if `\boldmath` is selected.

```
30 \DeclareFontShape{U}{lasy}{b}{n}{ <-10> ssub * lasy/m/n
31      <10> <10.95> <12> <14.4> <17.28> <20.74> <24.88>lasyb10  }{}
32 ⟨/fd⟩
```

The next line goes into all files and in addition prevents DOCSTRIP from adding any further code from the main source file (such as a character table).

33 `\endinput`