The `wasysym` macro package for LaTeX 2ε

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1   Introduction

This file defines the package `wasysym` which makes some additional characters available that come from the `wasy` fonts. These fonts were provided by Roland Waldi, Universität Karlsruhe, Germany. Notice that the present macro package requires version 2 (1992) of these fonts. It is not 100 % compatible to the old version 1 from 1989. I have provided no compatibility mode for the old fonts! If some characters come out wrong or are missing, you have to upgrade.

Some of the symbols below are already provided in the T1 or TS1 (textcompanion) encodings, and `wasysm` serves only to make them available also with the traditional (OT1-encoded) CM-Roman fonts. Other symbols are provided in the AMS symbol fonts, too, and can be accessed using either the `amssymb` or the `amsfonts` package.

2   The symbols

2.1   Various math symbols

The following commands are valid in math mode only:

$$\text{\textbackslash Join } \bowtie \quad \text{\textbackslash Box } \square \quad \text{\textbackslash Diamond } \Diamond \quad \text{\textbackslash leadsto } \rightsquigarrow \quad \text{\textbackslash sqsubset } \sqsubset$$
$$\text{\textbackslash sqsupset } \sqsupset \quad \text{\textbackslash lhd } \lhd \quad \text{\textbackslash unlhd } \unlhd \quad \text{\textbackslash LHD } \blacktriangleleft \quad \text{\textbackslash rhd } \rhd \quad \text{\textbackslash unrhd } \unrhd$$
$$\text{\textbackslash RHD } \blacktriangleright \quad \text{\textbackslash apprle } \lesssim \quad \text{\textbackslash apprge } \gtrsim \quad \text{\textbackslash wasypropto } \propto \quad \text{\textbackslash invneg } \ulcorner$$
$$\text{\textbackslash ocircle } \bigcirc \quad \text{\textbackslash logof } \circledast$$

2.2   Integrals

The `wasy` fonts provide a set of integral sybols, which comprises multiple integrals and surface integrals, too.

- Loading the package with the option `[integrals]` makes the following integrals available:

$$\text{\textbackslash int } \int \quad \text{\textbackslash iint } \iint \quad \text{\textbackslash iiint } \iiint \quad \text{\textbackslash oint } \oint \quad \text{\textbackslash oiint } \oiint$$

Notice that the style of the `\int` and `\oint` is changed, as compared with standard LaTeX, and matches the other integral symbols. This works with or without the `amsmath` package, and the sequence of loading does not matter.

- If you prefer to stay with the integral symbols provided by LaTeX (and possibly `amsmath`), but need other symbols from the `wasy` fonts, load the package with the option `[nointegrals]`. Doing so will neither alter any existing integral symbols nor add new ones.

- Loading the package *without an option* or with the option `[compat1]` makes the following commands for integrals available:

$$\texttt{\textbackslash varint}\ \int \quad \texttt{\textbackslash iint}\ \iint \quad \texttt{\textbackslash iiint}\ \iiint \quad \texttt{\textbackslash varoint}\ \oint \quad \texttt{\textbackslash oiint}\ \oiint$$

This is compatible with the behavior of `wasysym` version 1.x, but the package will not cooperate well with `amsmath` then.

2.3 General symbols

`\male` ♂   `\female` ♀   `\currency` ¤   `\phone` ☎   `\recorder` ℘
`\clock` ☉   `\lightning` ϟ   `\pointer` ⇨   `\RIGHTarrow` ▶
`\LEFTarrow` ◀   `\UParrow` ▲   `\DOWNarrow` ▼   `\diameter` ⌀
`\invdiameter` ⌀   `\varangle` ∢   `\wasylozenge` ⌑   `\kreuz` ✚
`\smiley` ☺ `\frownie` ☹ `\blacksmiley` ☻ `\sun` ☼ `\checked` ✓
`\bell` ♪   `\ataribox` ▨   `\cent` ¢   `\permil` ‰   `\brokenvert` ¦
`\wasytherefore` ∴ `\Bowtie` ⋈   `\agemO` ℧

2.4 Electrical and physical symbols

`\AC` ∼   `\HF` ≈   `\VHF` ≋   `\photon` ⌇⌇⌇   `\gluon` ◎◎◎◎◎

2.5 Polygons and stars

`\Square` □   `\XBox` ⊠   `\CheckedBox` ☑   `\hexagon` ⬡
`\varhexagon` ⬡   `\pentagon` ⬠   `\octagon` ◯   `\hexstar` ✷
`\varhexstar` ✶ `\davidsstar` ✡

2.6 Music notes

`\eighthnote` ♪   `\quarternote` ♩   `\halfnote` ♪   `\fullnote` ₒ
`\twonotes` ♫

2.7 Various circles

`\Circle` ○   `\CIRCLE` ●   `\Leftcircle` ◖   `\LEFTCIRCLE` ◖
`\Rightcircle` ◗   `\RIGHTCIRCLE` ◗   `\LEFTcircle` ◐
`\RIGHTcircle` ◑ `\leftturn` ↺ `\rightturn` ↻

2.8 Phonetic symbols

\dh ð \DH Ð \thorn þ \Thorn Þ \openo ɔ \inve ə

T1-encoded fonts normally include Eth characters of their own. The `wasy` package tries to provide them in the OT1 encoding, too. by "faking" them. This should work with the Computer Modern fonts, but may fail with others.

The characters produced by \thorn, \Thorn, \openo and \inve match only the CM-Roman typeface and do not change with the surrounding font family or shape.

2.9 Astronomical symbols

\vernal ♈   \ascnode ☊   \descnode ☋   \fullmoon ○
\newmoon ●   \leftmoon ☾   \rightmoon ☽   \astrosun ☉
\mercury ☿   \venus ♀   \earth ♁   \mars ♂   \jupiter ♃
\saturn ♄ \uranus ♅ \neptune ♆ \pluto ♇

2.10 Astrological symbols and the zodiacal symbols

\aries ♈   \taurus ♉   \gemini ♊   \cancer ♋   \leo ♌
\virgo ♍   \libra ♎   \scorpio ♏   \sagittarius ♐
\capricornus ♑   \aquarius ♒   \pisces ♓   \conjunction ☌
\opposition ☍

2.11 APL symbols

\APLstar ⋆   \APLlog ⊛   \APLbox □   \APLup △
\APLdown ▽   \APLinput ⎕   \APLcomment ⍝   \APLinv ⌹
\APLuparrowbox ⍓   \APLdownarrowbox ⍌   \APLleftarrowbox ⍃
\APLrightarrowbox ⍄   \notbackslash ⍀   \notslash ⌿
\APLnot ∼ \APLvert | \APLcirc ○ \APLminus ‾

3 Changes over version 1.x

- The \Dh command has finally been abolished.

- The macros \LEFTcircle, \RIGHTcircle, \CheckedBox and \APLinv start with \leavevmode now, so that they work properly at the beginning of a paragraph.

- Use of the `wasy`-style integral symbols can be controlled via the options [compat1], [integrals] and [nointegrals], with [compat1] being the default.

- When loaded with the [integrals] or [nointegrals] option, the package will not clash with `amsmath`.