Test of the **overarrows** package compatibility with LaTeX engines

Julien Labbé

July 11, 2024

Predefined commands

```latex
\begin{align*}
  \vv{AB}                    &  & \vec{v}                     \\
  \overrightarrow{AB}        &  & \underrightarrow{AB}        \\
  \overleftarrow{AB}         &  & \underleftarrow{AB}         \\
  \overleftrightarrow{AB}    &  & \underleftrightarrow{AB}    \\
  \overrightharpoonup{AB}    &  & \underrightharpoonup{AB}    \\
  \overrightharpoondown{AB}  &  & \underrightharpoondown{AB}  \\
  \overleftharpoonup{AB}     &  & \underleftharpoonup{AB}     \\
  \overleftharpoondown{AB}   &  & \underleftharpoondown{AB}   \\
  \overbar{AB}               &  & \underbar{AB}
\end{align*}
```

$$\overrightarrow{AB} \qquad \vec{v}$$

$$\overrightarrow{AB} \qquad \underrightarrow{AB}$$

$$\overleftarrow{AB} \qquad \underleftarrow{AB}$$

$$\overleftrightarrow{AB} \qquad \underleftrightarrow{AB}$$

$$\overrightharpoonup{AB} \qquad \underrightharpoonup{AB}$$

$$\overrightharpoondown{AB} \qquad \underrightharpoondown{AB}$$

$$\overleftharpoonup{AB} \qquad \underleftharpoonup{AB}$$

$$\overleftharpoondown{AB} \qquad \underleftharpoondown{AB}$$

$$\overbar{AB} \qquad \underbar{AB}$$

harrowextender

```
\begin{align*}
  \mathtt{-} ~=~                                        & -                            \\
  \mathtt{\backslash relbar} ~=~                        & \relbar                      \\
  \mathtt{\backslash relbareda} ~=~                     & \relbareda                   \\
  \mathtt{\backslash mathrel \backslash harrowextender} ~=~ & \mathrel{\harrowextender} \\
  \mathtt{\backslash ovar@auto@middle} ~=~              & \UseName{ovar@auto@middle}
\end{align*}
```

$$- = -$$
$$\backslash\texttt{relbar} = -$$
$$\backslash\texttt{relbareda} = \text{-}$$
$$\texttt{\backslash mathrel\backslash harrowextender} =$$
$$\backslash\texttt{ovar@auto@middle} = \text{-}$$

```
\NewOverArrowCommand{\testharrowextender}{%
  middle config=auto
}
\TestOverArrow{\testharrowextender}
```

\displaystyle	\textstyle	\scriptstyle	\scriptscriptstyle
$\overrightarrow{v}$	$\overrightarrow{v}$	$\overrightarrow{v}$	$\overrightarrow{v}$
$\overrightarrow{AB}$	$\overrightarrow{AB}$	$\overrightarrow{AB}$	$\overrightarrow{AB}$
$\overrightarrow{\mathrm{grad}}$	$\overrightarrow{\mathrm{grad}}$	$\overrightarrow{\mathrm{grad}}$	$\overrightarrow{\mathrm{grad}}$
$\overrightarrow{my\ long\ vector}$	$\overrightarrow{my\ long\ vector}$	$\overrightarrow{my\ long\ vector}$	$\overrightarrow{my\ long\ vector}$

```
\NewOverArrowCommand{\useharrowextender}{%
  middle config=harrowextender
}
\TestOverArrow{\useharrowextender}
```

\displaystyle	\textstyle	\scriptstyle	\scriptscriptstyle
$\overrightarrow{v}$	$\overrightarrow{v}$	$\overrightarrow{v}$	$\overrightarrow{v}$
$\overrightarrow{AB}$	$\overrightarrow{AB}$	$\overrightarrow{AB}$	$\overrightarrow{AB}$
$\overline{}\!\!\overrightarrow{\mathrm{grad}}$	$\overline{}\!\!\overrightarrow{\mathrm{grad}}$	$\overline{}\!\!\overrightarrow{\mathrm{grad}}$	$\overline{}\!\!\overrightarrow{\mathrm{grad}}$
$\overline{}\!\!\overrightarrow{my\ long\ vector}$	$\overline{}\!\!\overrightarrow{my\ long\ vector}$	$\overline{}\!\!\overrightarrow{my\ long\ vector}$	$\overline{}\!\!\overrightarrow{my\ long\ vector}$

TikZ arrows

```
\NewOverArrowCommand[tikz]{\tikzstandardthickness}{%
  path options={
    x=\overarrowlength, line width=\overarrowthickness
  },
  path={(0,0) -- (1,0)}, arrows={->}
}
\NewOverArrowCommand[tikz]{\tikzsmallerthickness}{%
  path options={
    x=\overarrowlength, line width=\overarrowsmallerthickness,
  },
  path={(0,0) -- (1,0)}, arrows={->}
}
\begin{align*}
  \tikzstandardthickness{ABCD} & &
  \scriptscriptstyle \tikzstandardthickness{ABCD} \\
  \tikzsmallerthickness{ABCD} & &
  \scriptscriptstyle \tikzsmallerthickness{ABCD}
\end{align*}
```

$$\overrightarrow{ABCD} \qquad\qquad \overrightarrow{ABCD}$$

$$\overrightarrow{ABCD} \qquad\qquad \overrightarrow{ABCD}$$