

Package `overarrows` examples

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Contents

1	Default arrows	1
2	Package <code>esvect</code> arrows	2
3	Arrow with an hook and two heads	2
4	Left-right arrow	2
5	Arrow with a double line	3
6	Right and left harpoons	3
7	Double arrow, right and left inverted	4
8	Arrow with a triple tail	5
9	Arched left and right arrow, with <code>tikz</code> package	5
10	Loop and arrow, with <code>PSTricks</code>	6
11	Banded arrow, with <code>picture</code> environment	7
12	Under arrow	7

1 Default arrows

<code>\vec</code>	<code>ams</code>	<code>old- arrows</code>	<code>esvect</code>	<code>tikz</code>	<code>pstricks</code>	<code>picture</code>	<code>pstar- rows</code>
\vec{v}	\overrightarrow{v}	\overrightarrow{v}	\overrightarrow{v}	\overrightarrow{v}	\overrightarrow{v}	\overrightarrow{v}	\overrightarrow{v}

2 Package **esvect** arrows

esveca esvecb esvecc esvecd esvece esvecf esvecg esvech

\vec{v} \vec{v} \vec{v} \vec{v} \vec{v} \vec{v} \vec{v} \vec{v}

3 Arrow with an hook and two heads

```
\NewOverArrowCommand{overhooktwoheadrightarrow}{%
  start=\lhook,
  end=\twoheadrightarrow,% from amssymb package
  trim start=1.5,
  trim end=2,
}
\TestOverArrow{overhooktwoheadrightarrow}
```

$\backslash displaystyle$	$\backslash textstyle$	$\backslash scriptstyle$	$\backslash scriptscriptstyle$
$\overhooktwoheadrightarrow v$	$\overhooktwoheadrightarrow v$	$\overhooktwoheadrightarrow v$	$\overhooktwoheadrightarrow v$
$\overhooktwoheadrightarrow AB$	$\overhooktwoheadrightarrow AB$	$\overhooktwoheadrightarrow AB$	$\overhooktwoheadrightarrow AB$
$\overhooktwoheadrightarrow \text{grad}$	$\overhooktwoheadrightarrow \text{grad}$	$\overhooktwoheadrightarrow \text{grad}$	$\overhooktwoheadrightarrow \text{grad}$
$\overhooktwoheadrightarrow \text{my long vector}$	$\overhooktwoheadrightarrow \text{my long vector}$	$\overhooktwoheadrightarrow \text{my long vector}$	$\overhooktwoheadrightarrow \text{my long vector}$

4 Left-right arrow

Note: \overleftrightarrow is already defined by `amsmath` package.

```
\RenewOverArrowCommand{overleftrightarrow}{%
  start=\varleftarrow,% from old-arrows package
  end=\varrightarrow,% from old-arrows package
  trim start=7,
  trim end=7,
  center arrow,
}
\TestOverArrow{overleftrightarrow}
```

$\backslash displaystyle$	$\backslash textstyle$	$\backslash scriptstyle$	$\backslash scriptscriptstyle$
$\overleftrightarrow v$	$\overleftrightarrow v$	$\overleftrightarrow v$	$\overleftrightarrow v$
$\overleftrightarrow AB$	$\overleftrightarrow AB$	$\overleftrightarrow AB$	$\overleftrightarrow AB$
$\overleftrightarrow \text{grad}$	$\overleftrightarrow \text{grad}$	$\overleftrightarrow \text{grad}$	$\overleftrightarrow \text{grad}$
$\overleftrightarrow \text{my long vector}$	$\overleftrightarrow \text{my long vector}$	$\overleftrightarrow \text{my long vector}$	$\overleftrightarrow \text{my long vector}$

5 Arrow with a double line

```
\NewOverArrowCommand{OverRightarrow}{%
  start={\smallermathstyle\Relbar},
  middle={\smallermathstyle\Relbar},
  end={\Rightarrow},
  trim=4,
  space after arrow=.25ex,
}
\TestOverArrow{OverRightarrow}
```

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

6 Right and left harpoons

```
\NewOverArrowCommand{overrightarrow}{%
  end={\rightharpoonup},
}
\TestOverArrow{overrightarrow}
```

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

```

\NewOverArrowCommand{overlefttharpoon}{%
  start=\leftharpoonup,
  end=\relbar,
  shift left=0,
  shift right=2,
}
\TestOverArrow{overlefttharpoon}

```

$\backslash displaystyle$	$\backslash textstyle$	$\backslash scriptstyle$	$\backslash scriptscriptstyle$
$\overlefttharpoon v$	$\overlefttharpoon v$	$\overlefttharpoon v$	$\overlefttharpoon v$
$\overlefttharpoon AB$	$\overlefttharpoon AB$	$\overlefttharpoon AB$	$\overlefttharpoon AB$
$\overlefttharpoon grad$	$\overlefttharpoon grad$	$\overlefttharpoon grad$	$\overlefttharpoon grad$
$\overlefttharpoon my\ long\ vector$	$\overlefttharpoon my\ long\ vector$	$\overlefttharpoon my\ long\ vector$	$\overlefttharpoon my\ long\ vector$

7 Double arrow, right and left inverted

```

\NewOverArrowCommand{overrightleftarrow}{%
  start=\text{\usefont{U}{lasy}{m}{n}\symbol{41}},
  end=\text{\usefont{U}{lasy}{m}{n}\symbol{40}},
  trim start=0.7,
  trim end=0.7,
  min length=20,
  shift leftright=-2,
}
\TestOverArrow{overrightleftarrow}

```

$\backslash displaystyle$	$\backslash textstyle$	$\backslash scriptstyle$	$\backslash scriptscriptstyle$
$\overrightarrowleftarrow v$	$\overrightarrowleftarrow v$	$\overrightarrowleftarrow v$	$\overrightarrowleftarrow v$
$\overrightarrowleftarrow AB$	$\overrightarrowleftarrow AB$	$\overrightarrowleftarrow AB$	$\overrightarrowleftarrow AB$
$\overrightarrowleftarrow grad$	$\overrightarrowleftarrow grad$	$\overrightarrowleftarrow grad$	$\overrightarrowleftarrow grad$
$\overrightarrowleftarrow my\ long\ vector$	$\overrightarrowleftarrow my\ long\ vector$	$\overrightarrowleftarrow my\ long\ vector$	$\overrightarrowleftarrow my\ long\ vector$

8 Arrow with a triple tail

```
\NewOverArrowCommand{\overttailrightarrow}{%
  start={\vcenter{\hbox{%
    $\smallermathstyle\succ\xjoinrel[10]\succ\xjoinrel[10]\succ$
  }}},
  middle={\relbareda},% from esvect package
  end={\rightarrow},
  trim start=12,
  center arrow,
  min length=24,
  space after arrow=.15ex,
}
\TestOverArrow{\overttailrightarrow}
```

\displaystyle	\textstyle	\scriptstyle	\scriptscriptstyle
\overttailrightarrow_v	\overttailrightarrow_v	\overttailrightarrow_v	\overttailrightarrow_v
$\overttailrightarrow_{AB}$	$\overttailrightarrow_{AB}$	$\overttailrightarrow_{AB}$	$\overttailrightarrow_{AB}$
$\overttailrightarrow_{\text{grad}}$	$\overttailrightarrow_{\text{grad}}$	$\overttailrightarrow_{\text{grad}}$	$\overttailrightarrow_{\text{grad}}$
$\overttailrightarrow_{\text{my long vector}}$	$\overttailrightarrow_{\text{my long vector}}$	$\overttailrightarrow_{\text{my long vector}}$	$\overttailrightarrow_{\text{my long vector}}$

9 Arched left and right arrow, with tikz package

```
\NewOverArrowCommand[tikz]{\overarchedleftrightarrow}{%
  arrows={<[scale=0.5]->[scale=0.5]},
  add tikz options={y=\overarrowlength},
  path={(0,0) arc (-250:70:0.5 and 0.1)},
  add path options={line width={\overarrowsmallerthickness}},
  center arrow,
  min length=25,
  space after arrow=0.4ex,
}
\TestOverArrow{\overarchedleftrightarrow}
```

\displaystyle	\textstyle	\scriptstyle	\scriptscriptstyle
$\overarchedleftrightarrow_v$	$\overarchedleftrightarrow_v$	$\overarchedleftrightarrow_v$	$\overarchedleftrightarrow_v$
$\overarchedleftrightarrow_{AB}$	$\overarchedleftrightarrow_{AB}$	$\overarchedleftrightarrow_{AB}$	$\overarchedleftrightarrow_{AB}$
$\overarchedleftrightarrow_{\text{grad}}$	$\overarchedleftrightarrow_{\text{grad}}$	$\overarchedleftrightarrow_{\text{grad}}$	$\overarchedleftrightarrow_{\text{grad}}$
$\overarchedleftrightarrow_{\text{my long vector}}$	$\overarchedleftrightarrow_{\text{my long vector}}$	$\overarchedleftrightarrow_{\text{my long vector}}$	$\overarchedleftrightarrow_{\text{my long vector}}$

10 Loop and arrow, with PSTricks

```
\NewOverArrowCommand[pstricks]{overloopandarrow}{
  pstricks command={%
    \pscurve{->}(0,0)
    (0.6\overarrowlength,0.05\overarrowlength)
    (0.5\overarrowlength,0.1\overarrowlength)
    (0.4\overarrowlength,0.05\overarrowlength)
    (\overarrowlength,0)
  },
  geometry={(0,0)(\overarrowlength,0.2\overarrowlength)},
  space after arrow=2pt, min length=20,
  geometry={(0,0)(\overarrowlength,0.2\overarrowlength)},
}
\TestOverArrow{overloopandarrow}
```

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

11 Banded arrow, with picture environment

```
\NewOverArrowCommand[picture]{overbandedarrow}{
  picture command={%
    \qbezier
    (0.0\overarrowlength,0)
    (0.5\overarrowlength,0)
    (0.9\overarrowlength,0.2\overarrowlength)
    \put(0.9\overarrowlength,0.2\overarrowlength)
    {\vector(2,1){0.2\overarrowlength}}
  },
  geometry={(\overarrowlength,0.4\overarrowlength)(0,0)},
  center arrow,
  space after arrow=0.4ex,
}
\TestOverArrow{overbandedarrow}
```

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

12 Under arrow

Note: \underleftrightharpoonup is already defined by amsmath package.

```
\DeclareOverArrowCommand{underleftrightharpoonup}{%
  start=\varleftarrow,
  center arrow,
  arrow under,
}
\TestOverArrow{underleftrightharpoonup}
```

$\backslash displaystyle$	$\backslash textstyle$	$\backslash scriptstyle$	$\backslash scriptscriptstyle$
$\underleftrightharpoonup{v}$	$\underleftrightharpoonup{v}$	$\underleftrightharpoonup{v}$	$\underleftrightharpoonup{v}$
$\underleftrightharpoonup{AB}$	$\underleftrightharpoonup{AB}$	$\underleftrightharpoonup{AB}$	$\underleftrightharpoonup{AB}$
$\underleftrightharpoonup{\text{grad}}$	$\underleftrightharpoonup{\text{grad}}$	$\underleftrightharpoonup{\text{grad}}$	$\underleftrightharpoonup{\text{grad}}$
$\underleftrightharpoonup{\text{my long vector}}$	$\underleftrightharpoonup{\text{my long vector}}$	$\underleftrightharpoonup{\text{my long vector}}$	$\underleftrightharpoonup{\text{my long vector}}$