

# Package `overarrows` examples

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## 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:  $\overleftrightharpoonup$  is already defined by amsmath package.

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

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

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

```

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

## 7 Double arrow, right and left inverted

```

\NewOverArrowCommand{\overrightarrow}{%
  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{\overrightarrow}

```

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

## 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
$\overttailrightarrow$	$\overttailrightarrow$	$\overttailrightarrow$	$\overttailrightarrow$
$\overttailrightarrow AB$	$\overttailrightarrow AB$	$\overttailrightarrow AB$	$\overttailrightarrow AB$
$\overttailrightarrow \text{grad}$	$\overttailrightarrow \text{grad}$	$\overttailrightarrow \text{grad}$	$\overttailrightarrow \text{grad}$
$\overttailrightarrow \text{my long vector}$	$\overttailrightarrow \text{my long vector}$	$\overttailrightarrow \text{my long vector}$	$\overttailrightarrow \text{my long vector}$

## 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
$\overarchedleftrightarrow$	$\overarchedleftrightarrow$	$\overarchedleftrightarrow$	$\overarchedleftrightarrow$
$\overarchedleftrightarrow AB$	$\overarchedleftrightarrow AB$	$\overarchedleftrightarrow AB$	$\overarchedleftrightarrow AB$
$\overarchedleftrightarrow \text{grad}$	$\overarchedleftrightarrow \text{grad}$	$\overarchedleftrightarrow \text{grad}$	$\overarchedleftrightarrow \text{grad}$
$\overarchedleftrightarrow \text{my long vector}$	$\overarchedleftrightarrow \text{my long vector}$	$\overarchedleftrightarrow \text{my long vector}$	$\overarchedleftrightarrow \text{my long vector}$

## 10 Loop and arrow, with PSTricks

```
\NewOverArrowCommand[pstricks]{\overloopandarrow}{
  psticks 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}
```

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

## 12 Under arrow

Note:  $\backslash underleftrightarrow$  is already defined by amsmath package.

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

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