# Test of the overarrows package predefined commands

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## 1 \vv

```
\TestOverArrow*{\vv}
```

**Test of \vv and \vv* macros**

**\vv for different math styles**

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

**\vv kerning**

$\vec{t}_{\vec{u}_{\vec{v}}}$ $\quad$ $\vec{\imath}_0$ $\quad$ $\vec{v} = \vec{v}_x + \vec{v}_y + \vec{v}_z = v_x\,\vec{\imath} + v_y\,\vec{\jmath} + v_z\,\vec{k}$

**\vv* kerning**

$\vec{t}_{\vec{u}_{\vec{v}}}$ $\quad$ $\vec{\imath}_0$ $\quad$ $\vec{v} = \vec{v}_x + \vec{v}_y + \vec{v}_z = v_x\,\vec{\imath} + v_y\,\vec{\jmath} + v_z\,\vec{k}$

## 2 \overrightarrow

```
\TestOverArrow{\overrightarrow}
```

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

## 3 \underrightarrow

```
\TestOverArrow{\underrightarrow}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underrightarrow{v}$ | $\underrightarrow{v}$ | $\underrightarrow{v}$ | $\underrightarrow{v}$ |
| $\underrightarrow{AB}$ | $\underrightarrow{AB}$ | $\underrightarrow{AB}$ | $\underrightarrow{AB}$ |
| $\underrightarrow{\mathrm{grad}}$ | $\underrightarrow{\mathrm{grad}}$ | $\underrightarrow{\mathrm{grad}}$ | $\underrightarrow{\mathrm{grad}}$ |
| $\underrightarrow{\textit{my long vector}}$ | $\underrightarrow{\textit{my long vector}}$ | $\underrightarrow{\textit{my long vector}}$ | $\underrightarrow{\textit{my long vector}}$ |

## 4 \overleftarrow

```
\TestOverArrow{\overleftarrow}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\overleftarrow{v}$ | $\overleftarrow{v}$ | $\overleftarrow{v}$ | $\overleftarrow{v}$ |
| $\overleftarrow{AB}$ | $\overleftarrow{AB}$ | $\overleftarrow{AB}$ | $\overleftarrow{AB}$ |
| $\overleftarrow{\mathrm{grad}}$ | $\overleftarrow{\mathrm{grad}}$ | $\overleftarrow{\mathrm{grad}}$ | $\overleftarrow{\mathrm{grad}}$ |
| $\overleftarrow{\textit{my long vector}}$ | $\overleftarrow{\textit{my long vector}}$ | $\overleftarrow{\textit{my long vector}}$ | $\overleftarrow{\textit{my long vector}}$ |

# 5 \underleftarrow

```
\TestOverArrow{\underleftarrow}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underleftarrow{v}$ | $\underleftarrow{v}$ | $\underleftarrow{v}$ | $\underleftarrow{v}$ |
| $\underleftarrow{AB}$ | $\underleftarrow{AB}$ | $\underleftarrow{AB}$ | $\underleftarrow{AB}$ |
| $\underleftarrow{\text{grad}}$ | $\underleftarrow{\text{grad}}$ | $\underleftarrow{\text{grad}}$ | $\underleftarrow{\text{grad}}$ |
| $\underleftarrow{my\ long\ vector}$ | $\underleftarrow{my\ long\ vector}$ | $\underleftarrow{my\ long\ vector}$ | $\underleftarrow{my\ long\ vector}$ |

# 6 \overleftrightarrow

```
\TestOverArrow{\overleftrightarrow}
```

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

# 7 \underleftrightarrow

```
\TestOverArrow{\underleftrightarrow}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underleftrightarrow{v}$ | $\underleftrightarrow{v}$ | $\underleftrightarrow{v}$ | $\underleftrightarrow{v}$ |
| $\underleftrightarrow{AB}$ | $\underleftrightarrow{AB}$ | $\underleftrightarrow{AB}$ | $\underleftrightarrow{AB}$ |
| $\underleftrightarrow{\mathrm{grad}}$ | $\underleftrightarrow{\mathrm{grad}}$ | $\underleftrightarrow{\mathrm{grad}}$ | $\underleftrightarrow{\mathrm{grad}}$ |
| $\underleftrightarrow{\mathit{my\ long\ vector}}$ | $\underleftrightarrow{\mathit{my\ long\ vector}}$ | $\underleftrightarrow{\mathit{my\ long\ vector}}$ | $\underleftrightarrow{\mathit{my\ long\ vector}}$ |

# 8 \overrightharpoonup

```
\TestOverArrow{\overrightharpoonup}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\overrightharpoonup{v}$ | $\overrightharpoonup{v}$ | $\overrightharpoonup{v}$ | $\overrightharpoonup{v}$ |
| $\overrightharpoonup{AB}$ | $\overrightharpoonup{AB}$ | $\overrightharpoonup{AB}$ | $\overrightharpoonup{AB}$ |
| $\overrightharpoonup{\mathrm{grad}}$ | $\overrightharpoonup{\mathrm{grad}}$ | $\overrightharpoonup{\mathrm{grad}}$ | $\overrightharpoonup{\mathrm{grad}}$ |
| $\overrightharpoonup{\mathit{my\ long\ vector}}$ | $\overrightharpoonup{\mathit{my\ long\ vector}}$ | $\overrightharpoonup{\mathit{my\ long\ vector}}$ | $\overrightharpoonup{\mathit{my\ long\ vector}}$ |

## 9 \underrightharpoonup

```
\TestOverArrow{\underrightharpoonup}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underrightharpoonup{v}$ | $\underrightharpoonup{v}$ | $\underrightharpoonup{v}$ | $\underrightharpoonup{v}$ |
| $\underrightharpoonup{AB}$ | $\underrightharpoonup{AB}$ | $\underrightharpoonup{AB}$ | $\underrightharpoonup{AB}$ |
| $\underrightharpoonup{\mathrm{grad}}$ | $\underrightharpoonup{\mathrm{grad}}$ | $\underrightharpoonup{\mathrm{grad}}$ | $\underrightharpoonup{\mathrm{grad}}$ |
| $\underrightharpoonup{\mathit{my\ long\ vector}}$ | $\underrightharpoonup{\mathit{my\ long\ vector}}$ | $\underrightharpoonup{\mathit{my\ long\ vector}}$ | $\underrightharpoonup{\mathit{my\ long\ vector}}$ |

## 10 \overrightharpoondown

```
\TestOverArrow{\overrightharpoondown}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\overrightharpoondown{v}$ | $\overrightharpoondown{v}$ | $\overrightharpoondown{v}$ | $\overrightharpoondown{v}$ |
| $\overrightharpoondown{AB}$ | $\overrightharpoondown{AB}$ | $\overrightharpoondown{AB}$ | $\overrightharpoondown{AB}$ |
| $\overrightharpoondown{\mathrm{grad}}$ | $\overrightharpoondown{\mathrm{grad}}$ | $\overrightharpoondown{\mathrm{grad}}$ | $\overrightharpoondown{\mathrm{grad}}$ |
| $\overrightharpoondown{\mathit{my\ long\ vector}}$ | $\overrightharpoondown{\mathit{my\ long\ vector}}$ | $\overrightharpoondown{\mathit{my\ long\ vector}}$ | $\overrightharpoondown{\mathit{my\ long\ vector}}$ |

## 11 \underrightharpoondown

```
\TestOverArrow{\underrightharpoondown}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underrightharpoondown{v}$ | $\underrightharpoondown{v}$ | $\underrightharpoondown{v}$ | $\underrightharpoondown{v}$ |
| $\underrightharpoondown{AB}$ | $\underrightharpoondown{AB}$ | $\underrightharpoondown{AB}$ | $\underrightharpoondown{AB}$ |
| $\underrightharpoondown{\mathrm{grad}}$ | $\underrightharpoondown{\mathrm{grad}}$ | $\underrightharpoondown{\mathrm{grad}}$ | $\underrightharpoondown{\mathrm{grad}}$ |
| $\underrightharpoondown{\mathit{my\ long\ vector}}$ | $\underrightharpoondown{\mathit{my\ long\ vector}}$ | $\underrightharpoondown{\mathit{my\ long\ vector}}$ | $\underrightharpoondown{\mathit{my\ long\ vector}}$ |

## 12 \overleftharpoonup

```
\TestOverArrow{\overleftharpoonup}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\overleftharpoonup{v}$ | $\overleftharpoonup{v}$ | $\overleftharpoonup{v}$ | $\overleftharpoonup{v}$ |
| $\overleftharpoonup{AB}$ | $\overleftharpoonup{AB}$ | $\overleftharpoonup{AB}$ | $\overleftharpoonup{AB}$ |
| $\overleftharpoonup{\mathrm{grad}}$ | $\overleftharpoonup{\mathrm{grad}}$ | $\overleftharpoonup{\mathrm{grad}}$ | $\overleftharpoonup{\mathrm{grad}}$ |
| $\overleftharpoonup{\mathit{my\ long\ vector}}$ | $\overleftharpoonup{\mathit{my\ long\ vector}}$ | $\overleftharpoonup{\mathit{my\ long\ vector}}$ | $\overleftharpoonup{\mathit{my\ long\ vector}}$ |

## 13 \underleftharpoonup

```
\TestOverArrow{\underleftharpoonup}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underleftharpoonup{v}$ | $\underleftharpoonup{v}$ | $\underleftharpoonup{v}$ | $\underleftharpoonup{v}$ |
| $\underleftharpoonup{AB}$ | $\underleftharpoonup{AB}$ | $\underleftharpoonup{AB}$ | $\underleftharpoonup{AB}$ |
| $\underleftharpoonup{\mathrm{grad}}$ | $\underleftharpoonup{\mathrm{grad}}$ | $\underleftharpoonup{\mathrm{grad}}$ | $\underleftharpoonup{\mathrm{grad}}$ |
| $\underleftharpoonup{my\ long\ vector}$ | $\underleftharpoonup{my\ long\ vector}$ | $\underleftharpoonup{my\ long\ vector}$ | $\underleftharpoonup{my\ long\ vector}$ |

## 14 \overleftharpoondown

```
\TestOverArrow{\overleftharpoondown}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\overleftharpoondown{v}$ | $\overleftharpoondown{v}$ | $\overleftharpoondown{v}$ | $\overleftharpoondown{v}$ |
| $\overleftharpoondown{AB}$ | $\overleftharpoondown{AB}$ | $\overleftharpoondown{AB}$ | $\overleftharpoondown{AB}$ |
| $\overleftharpoondown{\mathrm{grad}}$ | $\overleftharpoondown{\mathrm{grad}}$ | $\overleftharpoondown{\mathrm{grad}}$ | $\overleftharpoondown{\mathrm{grad}}$ |
| $\overleftharpoondown{my\ long\ vector}$ | $\overleftharpoondown{my\ long\ vector}$ | $\overleftharpoondown{my\ long\ vector}$ | $\overleftharpoondown{my\ long\ vector}$ |

## 15 \underleftharpoondown

```
\TestOverArrow{\underleftharpoondown}
```

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underleftharpoondown{v}$ | $\underleftharpoondown{v}$ | $\underleftharpoondown{v}$ | $\underleftharpoondown{v}$ |
| $\underleftharpoondown{AB}$ | $\underleftharpoondown{AB}$ | $\underleftharpoondown{AB}$ | $\underleftharpoondown{AB}$ |
| $\underleftharpoondown{\mathrm{grad}}$ | $\underleftharpoondown{\mathrm{grad}}$ | $\underleftharpoondown{\mathrm{grad}}$ | $\underleftharpoondown{\mathrm{grad}}$ |
| $\underleftharpoondown{\mathit{my\ long\ vector}}$ | $\underleftharpoondown{\mathit{my\ long\ vector}}$ | $\underleftharpoondown{\mathit{my\ long\ vector}}$ | $\underleftharpoondown{\mathit{my\ long\ vector}}$ |

## 16 \overbar

```
\TestOverArrow*{\overbar}
```

### Test of \overbar and \overbar* macros

#### \overbar for different math styles

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\overbar{v}$ | $\overbar{v}$ | $\overbar{v}$ | $\overbar{v}$ |
| $\overbar{AB}$ | $\overbar{AB}$ | $\overbar{AB}$ | $\overbar{AB}$ |
| $\overbar{\mathrm{grad}}$ | $\overbar{\mathrm{grad}}$ | $\overbar{\mathrm{grad}}$ | $\overbar{\mathrm{grad}}$ |
| $\overbar{\mathit{my\ long\ vector}}$ | $\overbar{\mathit{my\ long\ vector}}$ | $\overbar{\mathit{my\ long\ vector}}$ | $\overbar{\mathit{my\ long\ vector}}$ |

#### \overbar kerning

$$\overbar{t}_{\overbar{u}_{\overbar{v}}} \qquad \overbar{\imath}_0 \qquad \overbar{v} = \overbar{v}_x + \overbar{v}_y + \overbar{v}_z = v_x\overbar{\imath} + v_y\overbar{\jmath} + v_z\overbar{k}$$

#### \overbar* kerning

$$\overbar{t}_{\overbar{u}_{\overbar{v}}} \qquad \overbar{\imath}_0 \qquad \overbar{v} = \overbar{v}_x + \overbar{v}_y + \overbar{v}_z = v_x\overbar{\imath} + v_y\overbar{\jmath} + v_z\overbar{k}$$

# 17 \underbar

```
\TestOverArrow*{\underbar}
```

## Test of \underbar and \underbar* macros

### \underbar for different math styles

| \displaystyle | \textstyle | \scriptstyle | \scriptscriptstyle |
|---|---|---|---|
| $\underline{v}$ | $\underline{v}$ | $\underline{v}$ | $\underline{v}$ |
| $\underline{AB}$ | $\underline{AB}$ | $\underline{AB}$ | $\underline{AB}$ |
| $\underline{\mathrm{grad}}$ | $\underline{\mathrm{grad}}$ | $\underline{\mathrm{grad}}$ | $\underline{\mathrm{grad}}$ |
| $\underline{my\ long\ vector}$ | $\underline{my\ long\ vector}$ | $\underline{my\ long\ vector}$ | $\underline{my\ long\ vector}$ |

### \underbar kerning

$\underline{t}_{\underline{u}_{\underline{v}}}$ $\quad \underline{\imath}_0 \quad \underline{v} = \underline{v}_x + \underline{v}_y + \underline{v}_z = v_x\,\underline{\imath} + v_y\,\underline{\jmath} + v_z\,\underline{k}$

### \underbar* kerning

$\underline{t}_{\underline{u}_{\underline{v}}}$ $\quad \underline{\imath}_0 \quad \underline{v} = \underline{v}_x + \underline{v}_y + \underline{v}_z = v_x\,\underline{\imath} + v_y\,\underline{\jmath} + v_z\,\underline{k}$