

Test of the bracealign package

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1 Example

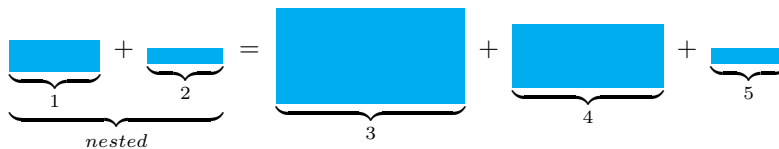
```
\[
\rho c \frac{\partial T}{\partial t} =
\begin{bracealign}
\underbrace{
\begin{bracealign}
\underbrace{
- \lambda \frac{\partial^2 T}{\partial x^2}
}_{\text{diffusion}}
- \underbrace{
\mu (T^4 - T_0^4)
}_{\substack{\text{radiative loss}}}
\end{bracealign}
}_{\text{heat transferts}}
+ \underbrace{
\sum_{i=1}^n \dot{q}_i
}_{\substack{\text{heat} \\ \text{sources}}}
\end{bracealign}
\]
```

$$\rho c \frac{\partial T}{\partial t} = \underbrace{-\lambda \frac{\partial^2 T}{\partial x^2}}_{\text{diffusion}} \underbrace{- \mu (T^4 - T_0^4)}_{\text{radiative loss}} + \underbrace{\sum_{i=1}^n \dot{q}_i}_{\text{heat sources}}$$

2 `\underbrace`

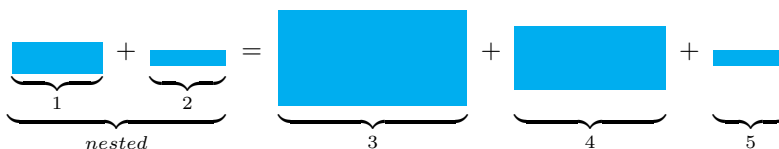
2.1 Without `bracealign`

```
\[
  \underbrace{
    \underbrace{\medcontent}_{1}
    ~+~
    \underbrace{\smallcontent}_{2}
  }_{nested}
  ~~~
  \underbrace{\hugecontent}_{3}
  ~+~
  \underbrace{\bigcontent}_{4}
  ~+~
  \underbrace{\smallcontent}_{5}
\]
```



2.2 With `bracealign`

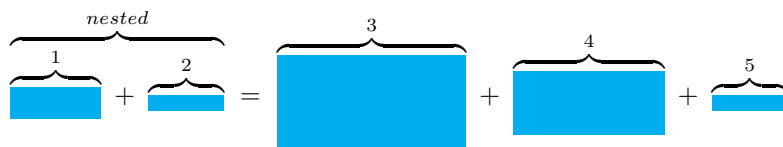
```
\[
  \begin{bracealign}
    \underbrace{
      \begin{bracealign}
        \underbrace{\medcontent}_{1}
        ~+~
        \underbrace{\smallcontent}_{2}
      \end{bracealign}
    }_{nested}
    ~~~
    \underbrace{\hugecontent}_{3}
    ~+~
    \underbrace{\bigcontent}_{4}
    ~+~
    \underbrace{\smallcontent}_{5}
  \end{bracealign}
\]
```



3 `\overbrace`

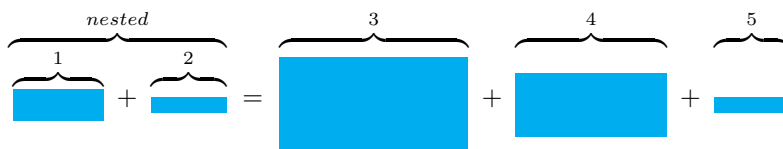
3.1 Without `bracealign`

```
\[
\overbrace{
\overbrace{\medcontent}^{1}
~+~
\overbrace{\smallcontent}^{2}
}^{nested}
~\equiv~
\overbrace{\hugecontent}^{3}
~+~
\overbrace{\bigcontent}^{4}
~+~
\overbrace{\smallcontent}^{5}
\]
```



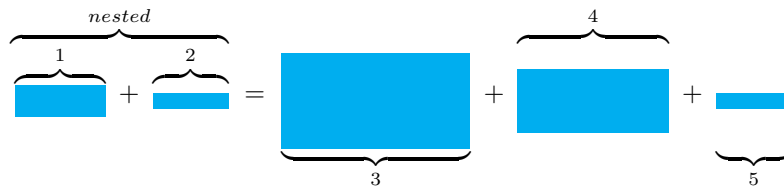
3.2 With `bracealign`

```
\[
\begin{bracealign}
\overbrace{
\begin{bracealign}
\overbrace{\medcontent}^{1}
~+~
\overbrace{\smallcontent}^{2}
\end{bracealign}
}^{nested}
~\equiv~
\overbrace{\hugecontent}^{3}
~+~
\overbrace{\bigcontent}^{4}
~+~
\overbrace{\smallcontent}^{5}
\end{bracealign}
\]
```



4 Mixed

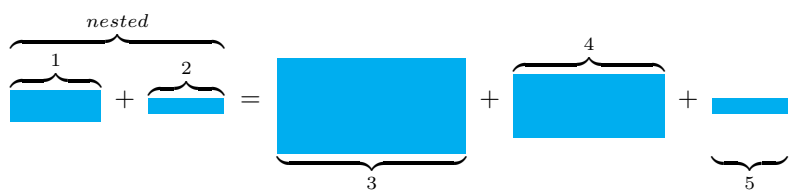
```
\[
\begin{bracealign}
\overbrace{
\begin{bracealign}
\overbrace{\medcontent}^{\{1\}}
~+~
\overbrace{\smallcontent}^{\{2\}}
\end{bracealign}
}^{\{nested\}}
~+~
\underbrace{\hugecontent}_{\{3\}}
~+~
\overbrace{\bigcontent}^{\{4\}}
~+~
\underbrace{\smallcontent}_{\{5\}}
\end{bracealign}
\]
```



5 Other tests

5.1 Setting keys

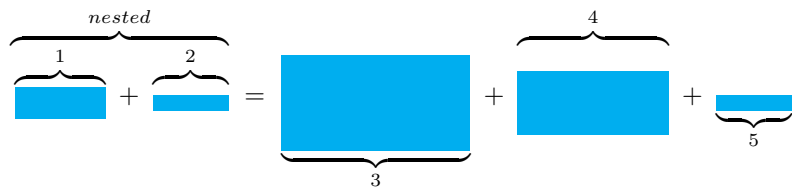
```
\[
\begin{bracealign}[nooverbrace]
\overbrace{
\begin{bracealign}
\overbrace{\medcontent}^{\{1\}}
~+~
\overbrace{\smallcontent}^{\{2\}}
\end{bracealign}
}^{\{nested\}}
~==~
\underbrace{\hugecontent}_{\{3\}}
~+~
\overbrace{\bigcontent}^{\{4\}}
~+~
\underbrace{\smallcontent}_{\{5\}}
\end{bracealign}
\]
```



```

\begin{bracketalign}[nounderbrace]
  \overbrace{
    \begin{bracketalign}
      \overbrace{\medcontent}^{\{1\}}
      ~+~
      \overbrace{\smallcontent}^{\{2\}}
    \end{bracketalign}
  }^{\{nested\}}
  ~+~
  \underbrace{\hugecontent}_{\{3\}}
  ~+~
  \overbrace{\bigcontent}^{\{4\}}
  ~+~
  \underbrace{\smallcontent}_{\{5\}}
\end{bracketalign}

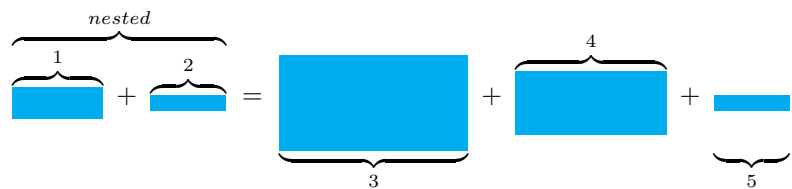
```



```

\bracketalignsetup{overbrace=false}
\begin{bracketalign}
  \overbrace{
    \begin{bracketalign}
      \overbrace{\medcontent}^{\{1\}}
      ~+~
      \overbrace{\smallcontent}^{\{2\}}
    \end{bracketalign}
  }^{\{nested\}}
  ~+~
  \underbrace{\hugecontent}_{\{3\}}
  ~+~
  \overbrace{\bigcontent}^{\{4\}}
  ~+~
  \underbrace{\smallcontent}_{\{5\}}
\end{bracketalign}

```



5.2 Adding commands

```
\bracealignsetup{
  add-brace = \overrightarrow,
  add-braces = {\overleftarrow, \overrightarrow},
}
```

```
\[
\begin{bracealign}
\overrightarrow{
\begin{bracealign}
\overrightarrow{\medcontent}
~+~
\overrightarrow{\smallcontent}
\end{bracealign}
}
~+~
\overrightarrow{\hugecontent}
~+~
\overrightarrow{\bigcontent}
~+~
\overrightarrow{\smallcontent}
\end{bracealign}
\]
```



```
\[
\begin{bracealign}
\overleftarrow{
\begin{bracealign}
\overleftarrow{\medcontent}
~+~
\overleftarrow{\smallcontent}
\end{bracealign}
}
~+~
\overleftarrow{\hugecontent}
~+~
\overleftarrow{\bigcontent}
~+~
\overleftarrow{\smallcontent}
\end{bracealign}
\]
```



```

\l
\begin{bracealign}[nooverrightarrow]
\overleftarrow{
\begin{bracealign}
\overrightarrow{\medcontent}
~+~
\overrightarrow{\smallcontent}
\end{bracealign}
}
~+~
\overleftarrow{\hugecontent}
~+~
\overleftarrow{\bigcontent}
~+~
\overleftarrow{\smallcontent}
\end{bracealign}
\l

```



5.3 Check of commands definition

```

Before \textsf{bracealign}:\newline
``\expandafter\meaning\csname overbrace\endcsname"
\par\bigskip
\begin{bracealign}
  Inside \textsf{bracealign}:\newline
  ``\expandafter\meaning\csname overbrace\endcsname"
\end{bracealign}
\par\bigskip
Before \textsf{bracealign}:\newline
``\expandafter\meaning\csname overbrace\endcsname"

```

Before bracealign:

“macro:->\protect \overbrace ”

Inside bracealign:

“\long macro:#1->\use:c {__bracealign__overbrace_std_cmd:n}{\vphantom {\tl_use:c {l__bracealign__overbrace_strutcontent_tl}}#1}”

Before bracealign:

“macro:->\protect \overbrace ”