SubSupScripts

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http://tex.nopkoguo.net/subsupscripts

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Brief description of the package: This package provides some new more flexible commands to typeset subscripts and superscripts in mathematical mode.

1 Usage

1.1 Default lengths

The following commands use the default lengths, as defined in 2.1. They are quite tight and are useful in case of an operator such as $\oplus$.

- `\fourscripts{⊕}{⊛}{⊡}{⊙}{⧅}`
  Output: $\overset{\circledast\,\boxdot}{\oplus}{}^{\odot\,\diagup\!\!\!\diagdown}$
- `\lrsubscripts{⊕}{⊡}{⊙}`
  Output: $\oplus_{\boxdot\,\odot}$
- `\lrsuperscripts{⊕}{⊡}{⊙}`
  Output: $\oplus^{\boxdot\,\odot}$
- `\twolscripts{⊕}{⊡}{⊙}`
  Output: $\overset{\boxdot}{\underset{\odot}{\oplus}}$
- `\tworscripts{⊕}{⊡}{⊙}`
  Output: $\underset{\odot}{\overset{\boxdot}{\oplus}}$
- `\lsubscript{⊕}{⊡}`
  Output: $\underset{\boxdot}{\oplus}$
- `\lsuperscript{⊕}{⊡}`
  Output: $\overset{\boxdot}{\oplus}$
- `\rsubscript{⊕}{⊡}`
  Output: $\oplus_{\boxdot}$
- `\rsuperscript{⊕}{⊡}`
  Output: $\oplus^{\boxdot}$

1.2 Larger skips

The following commands use larger lengths, as defined in 2.1: this is achieved by running the command `\largerSkips`. This is needed when we want to apply subscripts or superscripts to something larger than $\oplus$, such as $expression$.

- `\fourscripts{`$expression$`}{⊛}{⊡}{⊙}{⧅}`
  Output: $\overset{\circledast\,\boxdot}{expression}{}^{\odot\,\diagup\!\!\!\diagdown}$

- `\lrsubscripts{`*expression*`}{⧈}{⧈}`
  Output: ${}_{\boxdot}expression_{\boxdot}$
- `\lrsuperscripts{`*expression*`}{⧈}{⧈}`
  Output: ${}^{\boxdot}expression^{\boxdot}$
- `\twolscripts{`*expression*`}{⧈}{⧈}`
  Output: $\begin{smallmatrix}\boxdot\\ \boxdot\end{smallmatrix}expression$
- `\tworscripts{`*expression*`}{⧈}{⧈}`
  Output: $expression\begin{smallmatrix}\boxdot\\ \boxdot\end{smallmatrix}$
- `\lsubscript{`*expression*`}{⧈}`
  Output: ${}_{\boxdot}expression$
- `\lsuperscript{`*expression*`}{⧈}`
  Output: ${}^{\boxdot}expression$
- `\rsubscript{`*expression*`}{⧈}`
  Output: $expression_{\boxdot}$
- `\rsuperscript{`*expression*`}{⧈}`
  Output: $expression^{\boxdot}$

1.3 Changing the default lengths

The following commands can be used to change the default skips between subscripts and/or superscripts and $\oplus$:

- `\setSingleLSkip{`ℓ_L`}` changes the value of `\singleleftscriptskip` to ℓ_L: this affects the skip in all the commands putting a subscript and/or a superscript on the left side of $\oplus$;
- `\setSingleRSkip{`ℓ_R`}` changes the value of `\singlerightscriptskip` to ℓ_R: this affects the skip in all the commands putting a subscript and/or a superscript on the right side of $\oplus$;
- `\setDblLSkip{`ℓ_L`}` changes the value of `\dblleftscriptskip` to ℓ_L: this affects the left skip in all the commands putting a subscript and/or a superscript on both sides of $\oplus$;
- `\setDblRSkip{`ℓ_R`}` changes the value of `\dblrightscriptskip` to ℓ_R: this affects the right skip in all the commands putting a subscript and/or a superscript on both sides of $\oplus$.

1.4 Custom lengths

If you want to define the left and right skip on the sides of $\oplus$ each time you write a command, you have the following options (ℓ_I is 2ex in these examples):

- `\fourscriptsC{⊕}{⧆}{⧈}{⧈}{⧅}{`ℓ_L`}{`ℓ_R`}`
  Output: $\begin{smallmatrix}\boxstar\\ \boxdot\end{smallmatrix}\oplus\begin{smallmatrix}\boxdot\\ \boxslash\end{smallmatrix}$
- `\lrsubscriptsC{⊕}{⧈}{⧈}{`ℓ_L`}{`ℓ_R`}`
  Output: ${}_{\boxdot}\oplus_{\boxdot}$
- `\lrsuperscriptsC{⊕}{⧈}{⧈}{`ℓ_L`}{`ℓ_R`}`
  Output: ${}^{\boxdot}\oplus^{\boxdot}$
- `\twolscripts[`ℓ_L`]{⊕}{⧈}{⧈}`
  Output: $\begin{smallmatrix}\boxdot\\ \boxdot\end{smallmatrix}\oplus$

- `\tworscripts[`ℓ_R`]{`$\oplus$`}{`$\boxdot$`}{`$\boxdot$`}`
  Output: $\oplus^{\boxdot}_{\boxdot}$
- `\lsubscript[`ℓ_L`]{`$\oplus$`}{`$\boxdot$`}`
  Output: ${}_{\boxdot}\oplus$
- `\lsuperscript[`ℓ_L`]{`$\oplus$`}{`$\boxdot$`}`
  Output: ${}^{\boxdot}\oplus$
- `\rsubscript[`ℓ_R`]{`$\oplus$`}{`$\boxdot$`}`
  Output: $\oplus_{\boxdot}$
- `\rsuperscript[`ℓ_R`]{`$\oplus$`}{`$\boxdot$`}`
  Output: $\oplus^{\boxdot}$

2 What does the package actually contains?

You don't really need to read the following stuff to use the package, but have a look at it if you want to have an idea of how the package works without looking at the code.

2.1 Lengths definitions

This lenghts are used to define the default skips on the left and on the right side of $\oplus$.

- `\singleleftscriptskip`: default -0.27ex, larger[1] -0.16ex;
- `\singlerightscriptskip`: default -0.18ex, larger -0.07ex;
- `\dblleftscriptskip`: default -0.75ex, larger 0ex;
- `\dblrightscriptskip`: default -0.645ex, larger 0ex.

2.2 Base commands

The base commands are only three, all the rest is built on top of them:

- ```
  \newcommand{\fourscriptsC}[7]
      {{\null}^{#2}_{#3}\hspace{#6}#1\hspace{#7}{\null}^{#4}_{#5}}
  ```
- ```
  \newcommand{\twolscripts}[4]
      [\singleleftscriptskip]{{\null}^{#3}_{#4}\hspace{#1}#2}
  ```
- ```
  \newcommand{\tworscripts}[4]
      [\singlerightscriptskip]{#2\hspace{#1}{\null}^{#3}_{#4}}
  ```

3 Contacts

As you can see this package boils down to just a few new command definitions, but it can help save some time — I wrote it because I was not really satisfied of what I had found searching the web.

If you have comments or want to report any bug, please send a mail to *subsupscripts@tex.nopkoguo.net*.

[1] This is obtained after invoking the `\largerSkips` command.
  ```