The accents Package*

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This package provides some miscellaneous tools for mathematical accents, with the following goals in mind:

- Creating faked accents from non-accent symbols, like $\stackrel{\star}{s}$.
- Grouping them, perhaps including actual accents, like $\hat{\stackrel{\star}{\hat{h}}}$. That has the side effect that multiple actual accents can be built as well.
- Putting them below the main symbol instead of above.

That is done so that the faked accents behave in quite similar fashion to actual accents do; i.e., the skew of the letter is taken into account (compare $\stackrel{\star}{d}$ with $\stackrel{\star}{h}$) and the sub and superscripts attached to it aren't misplaced (look carefully at $\stackrel{\star}{f}{}_1^1$).

Release 1.1 included a few new features, some of them following suggestions by Donald Arseneau. In particular, the `\underaccent` command has been fully reimplemented for the slant to be taken into account and the "accent" to be placed below the symbol can be anyone, not only real accents. This release just makes it compatible with amsmath 2 with a quick fix.

`\DeclareMathAccent`

This LaTeX 2_ε command is reimplemented so that newly defined accents will incorporate the features of this package. The standard accents are automatically redefined, including `\mathring` if you are using one of the latest LaTeX releases. However, both `\widetilde` and `\widehat` remains untouched. If you are using a non standard math encoding, the accents following the standard encoding names are rightly redefined, but new accents are not converted because accents is not aware of its existence.

*This package is currently at version 1.4.

†For bug reports, comments and suggestions go to `http://www.tex-tipografia.com`. English is not my strong point, so contact me when you find mistakes in the manual. Other packages by the same author: tensind (tensorial indexes), spanish (for babel), titlesec (to redefine sectioning macros), dotlessi (dotless i in any math group).

See `fntguide.tex` in the LaTeX standard distribution for a discussion on `\DeclareMathAccent`.

`\ring{`⟨*symbol*⟩`}`

The accent in $\mathring{x}$, which was available in this package (and in fact in many others) before the `\mathring` command was added to the LaTeX kernel.

`\accentset{`⟨*accent*⟩`}{`⟨*symbol*⟩`}`

Builds a faked accent, as for instance

`\accentset{\star}{d}`	$\accentset{\star}{d}$
`\accentset{\diamond}{h}`	$\accentset{\diamond}{h}$
`\tilde{\accentset{\circ}{\phi}}`	$\tilde{\accentset{\circ}{\phi}}$

The ⟨*accent*⟩ is always in `\scriptscriptmode`; hence, using `\accentset` in scripts won't give the desired result. Of course, if you use some faked accent many times, you can define:

```
\newcommand\starred[1]{\accentset{\star}{#1}}
```

and `\starred` will become an accent, like `\hat`, `\tilde`, etc.

`\dddot` `\ddddot`

Two prefabricated faked accents: $\dddot{f}$ and $\ddddot{f}$.

`\underaccent{`⟨*accent*⟩`}{`⟨*symbol*⟩`}`

This command puts the ⟨*accent*⟩ under the ⟨*symbol*⟩. Both real and faked accents are allowed. For instance,

`\underaccent{\hat}{x}`	$\underaccent{\hat}{x}$
`\underaccent{\bar}{\gamma}`	$\underaccent{\bar}{\gamma}$
`\underaccent{\triangleright}{q}`	$\underaccent{\triangleright}{q}$
`\underaccent{\tilde}{\mathcal{A}}`	$\underaccent{\tilde}{\mathcal{A}}$

Many people likes using the wider version of the tilde accent as printed by the `\widetilde` command, i.e., $\widetilde{A}$ instead of $\tilde{A}$. I find that aesthetically questionable, but anyway it can be used under the symbol as well. Since `\widetilde` remains untouched, you should define:

```
\DeclareMathAccent{\wtilde}{\mathord}{largesymbols}{"65}
```

and write `\underaccent{\wtilde}{V}`, say (giving $\underset{\sim}{V}$). You may build an accent with `\sim`, too. (The value for a wide hat is `"62`)

Sadly, TEX lacks of a mechanism to place underaccents similar to that used in accents. Letters have a large variety of shapes and finding an automatic adjusting is practically impossible. Compare for instance the following letters: $\underline{V}$, $\underline{Q}$, $\underline{p}$, $\underline{q}$, $\underline{f}$, $\underline{\beta}$, $\underline{\gamma}$, $\underline{\mathcal{F}}$, $\underline{\mathcal{A}}$ and you wil understand the difficulties.

`\undertilde{`⟨*symbols*⟩`}`

This is the "under" version of `\widetilde` and like the latter is intended for constructions involving several symbols. For instance:

```
\undertilde{CV}
```
$\underset{\sim}{CV}$

Note that in this case no correction is made in the placement of the tilde.

`nonscript single`

These package options are intended mainly for speeding up the typesetting of document. The algorithm used here is recursive and very slow; although in fast processors that is not felt, in slow system that could be very annoying.

single If you are interested only in `\accentset`. Accents are not reimplemented.

nonscript If you intend to use multiple accents in text and display modes only.

Macros are speeded up dramatically with both options; if your system is slow, I commend using them in drafts and removing them for the final print.

Finally, some remarks:

- The package does not provides alternative accents for fonts lacking them. If you want an accented `\mathcal` letter you had to write `\hat{\hat{\mathcal{A}}}` ($\hat{\hat{\mathcal{A}}}$).
- `\mathbf{\hat{\hat h}}` gets the bold accent; `\hat{\hat{\mathbf{h}}}` not.
- The symbol in `\accentset` must be a single symbol.
- If you use accents with amsmath 2, you must load accents after. Note that amsmath could redefine some accents; in particular, if you experience problems with `\vec` and you are using the standard math encodings, define:

```
\let\vec\relax
\DeclareMathAccent{\vec}{\mathord}{letters}{"7E}
```