tab4tex
Version 0.1

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Abstract

This utility helps to prepare tables to be used in LaTeX. The programs are written in Snobol4; the only requirement is to install the interpreter. For Windows, a standalone file compiled with Spitbol is also provided, and the programs can be run without the need of an external interpreter.

Contents

1 The program

The program tab4tex reads from the standard input a text file and outputs a table formatted according to the requirements of the environment tabular. It is

possible to output a table that can be pasted or included in a complete LaTeX file or to output a complete standalone LaTeX file.

Some basic formatting aids are provided. Refined features can be added later in the LaTeX code.

The program must be run as follows:

```
snobol4 -b tab4tex.sno [options] <inputfile >outputfile
```

If compiled or from a script:

```
tab4tex [options] <inputfile >outputfile
```

Options are:

a align (center,left,right)

r number of rows

b vertical bar (y/n)

c complete LaTeX document (y/n)

h hline (y/n)

First and second argument are compulsory, 3rd, 4th and 5th optional (simple y/n choice). For example use `c=y` if you want a complete LaTeX document, `c=n` if you want just a table to include in your document.

See the next section for some examples.

2 Examples and formatting aids

2.1 A simple example

This is file `test1` provided in the package:

```
<M5>*Animals and friends*
<E>      <M2>!Cats!      <M2>!Dogs!
<E>      ^John^ ^Martha^ ^John^ ^Martha^
*Black*    2      5        5      0
*White*    4      1        0      5
*Red*      2      1        <M2>Not known
```

These lines are very simple:

```
*Black*    2      5        5      0
*White*    4      1        0      5
```

Each line is a row and cells are separated by tabs. Please notice: *tabs*, not empty spaces.

The asterisks are used to produce bold text in the LaTeX output. The program provides this simple encoding:

cell produces **cell**
!cell! produces *cell*
ˆcellˆ produces CELL

The third line uses `<E>`, meaning *empty cell*:

```
<E>       ^John^ ^Martha^ ^John^ ^Martha^
```

Empty cells must be separated from the following ones as normal cells are, i.e. using a tab. Please notice: *tabs*, not empty spaces. In this line, observe the use of `^` to obtain small caps in the LaTeX output.

The second and the last row are using multicolumns, i.e. the text is expanded in two ore more cells:

```
<E>         <M2>!Cats!      <M2>!Dogs!
*Red*       2       1       <M2>Not known
```

The program uses a simple encoding to obtain a multicols output: precede the string with `<M[number]>`, as in the above example. Multicols cells must be separated from the following ones as normal cells are, i.e. using a tab. Please notice: *tabs*, not empty spaces. Observe the use of `!` to obtain italics in the LaTeX output.

This is the final output:

```
\begin{tabular}{|c|c|c|c|c|}
  \hline
  \multicolumn{5}{|c|}{\textbf{Animals and friends}} \\
  \hline
  & \multicolumn{2}{|c|}{\emph{Cats}} & \multicolumn{2}{|c|}{\emph{Dogs}} \\
  \hline
  & \textsc{John} & \textsc{Martha} & \textsc{John} & \textsc{Martha} \\
  \hline
  \textbf{Black} & 2 & 5 & 5 & 0 \\
  \hline
  \textbf{White} & 4 & 1 & 0 & 5 \\
  \hline
  \textbf{Red} & 2 & 1 & \multicolumn{2}{|c|}{Not known} \\
  \hline
\end{tabular}
```

This output was obtained with the following command line:

```
snobol4 -b tab4tex.sno r=5 a=c b=y h=y c=n <test1.txt >test1.tex
```

The options used are:

- `r=5` The number of rows.
- `a=c` Cells are centered
- `b=y` Vertical bar
- `h=y` Horizontal bar
- `c=n` Do not output a standalone LaTeX file

Please notice that only the first two options must be entered. If you answer "no" to any other option, you can simply omit it.

2.2 A more complex example

This example is a bit more complex[1]. This is the input file:

```
<E>          <M2>Singular       <M2>Plural
<E>          English *Gaeilge*  *English* *Gaeilge*
1st Person   at me   *agam*     at us     *againn*
2nd Person   at you  *agat*     at you    *agaibh*
3rd Person   at him  *aige*     at them   *acu*
<E>          at her  *aici*     <E>        <E>
```

The file combines empty cells and formatting instructions. This is the output:

```
\begin{tabular}{|l|l|l|l|l|}
  \hline
  & \multicolumn{2}{|l|}{Singular} & \multicolumn{2}{|l|}{Plural} \\
  \hline
  & English & \textbf{Gaeilge} & \textbf{English} & \textbf{Gaeilge} \\
  \hline
  1st Person & at me & \textbf{agam} & at us & \textbf{againn} \\
  \hline
  2nd Person & at you & \textbf{agat} & at you & \textbf{agaibh} \\
  \hline
  3rd Person & at him & \textbf{aige} & at them & \textbf{acu} \\
  \hline
  & at her & \textbf{aici} &   &   \\
  \hline
\end{tabular}
```

The output was obtained with the following command line:

```
snobol4 -b tab4tex.sno r=5 a=l b=y h=y c=n <test2.txt >test2.tex
```

Notice that this time we have used `a=l` and not `a=c`, so cells will not be centered but left aligned.

3 Installation

3.1 GNU/Linux and other *nix systems

1. Install snobol4 from `http://www.snobol4.org`. This is Philip Budne's CSNOBOL implementation. You need a `c` compiler to compile the interpreter; it's normally a very quick and easy process.

2. Make sure snobol4 is in your PATH or make a symbolic link.

You can now run the program as follows:

```
snobol4 -b tab4tex.sno [OPTIONS] <input >output
```

[1]The table is quoted from `http://www.maths.tcd.ie/~dwilkins/latexprimer/tables.html`. To see the real file provided in the package set tabs at 12 or similar values and use a fixed font.

If you prefer to avoid some typing, write the following line as first line of the program:

```
#!/usr/local/bin/snobol4 -b
```

Adapt accordingly to your installation, e.g.

```
#!/usr/bin/snobol4 -b
```

Make the file tab4tex.sno executable, e.g. `chmod +x tab4tex.sno`

Run the program as follows: `./tab4tex.sno [options] <input >output`
If the current directory is in your PATH, you do not need `./` before the program name.

3.2 Windows

The package offers an executable file compiled with Spitbol (see `http://www.snobol4.com`), a powerful commercial Windows version of Snobol. Make a directory and copy all the file provided in the bin/windows directory. There must be one `exe` file and two `test*` files.

Run the programs as follows:

```
tab4tex [options] <input >output
```

3.3 Windows from source

Basically, follow the same directions given about GNU/Linux, but make sure to use the `bat` files and to install the Windows version of the interpreter. Before using the sources, that are in Unix format, use a script to translate from Unix to Dos-Windows format. If you do not have such a script, open the files with a text editor and save the sources in Windows-Dos format. This can be done reading and saving each file with the DOS edit program, with vim or any other editor able to deal with different file formats.

3.4 Cygwin

I suggest to follow the same directions given for GNU/Linux, but the EXE files provided for native Windows can be used anyway if preferred.

3.5 Macintosh

Not yet tested (I do not have a Mac right now). It's in the TODO list.

4 Test files

Please test the program on test1.txt and test2.txt.

5 Reference

OPTIONS

a	align (center,left,right)
b	vertical bar (y/n)
c	complete LaTeX document (y/n)
h	hline (y/n)
r	rows

FORMATTING CODES

cell*	produces **cell**	bold
!cell!	produces *cell*	italics
^cell^	produces CELL	small caps

6 Bugs and TODO

List of features that I would like to add:

1. Escape sequences for <E> and formatting codes (!*^).
2. Better support for multicol
3. Use of tabularx and longtab
4. Some more formatting aids.

7 Acknowledgements

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