ddsudoku.sty

v1.0

A style file for typesetting 2D-Sudoku logic puzzles

1				
3				4
	4		2	
			3	

1	3	4	5	2
3	2	5	1	4
5	4	3	2	1
2	5	1	4	3
4	1	2	3	5

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Contents

1 The puzzle

Fill every row, every column and each of the two diagonals – if indicated – with numbers from 1 to SIZE of the grid. Here’s a little self-explanatory example:

1				
3				4
	4		2	
			3	

1	3	4	5	2
3	2	5	1	4
5	4	3	2	1
2	5	1	4	3
4	1	2	3	5

```
\begin{center}
  \begin{ddsudoku}
    \framepuzzle
    \filldiagonals[orange!50]
    \ddsudokucell{1}{5}{1}
    \ddsudokucell{1}{4}{3}
    \ddsudokucell{2}{3}{4}
    \ddsudokucell{4}{1}{3}
    \ddsudokucell{4}{3}{2}
    \ddsudokucell{5}{4}{4}
  \end{ddsudoku}
  \hspace{1,5cm}
  \begin{ddsudoku}
    \framepuzzle
    \filldiagonals[orange!50]
    \setrow{5}{1,3,4,5,2}
    \setrow{4}{3,2,5,1,4}
    \setrow{3}{5,4,3,2,1}
    \setrow{2}{2,5,1,4,3}
    \setrow{1}{4,1,2,3,5}
  \end{ddsudoku}
\end{center}
```

2 Options

rows [5] defines the number of rows in the grid.

columns [5] specifies the number of columns in the grid

width [5.1cm] sets the width of the minipage, in which the grid is typeset.

scale [1] scales the size of the grid in the minipage.

fontsize [Large] specifies the size of the numbers next to the grid. Here, the usual LaTeX sizes are used. Possible values: tiny, scriptsize, footnotesize, small, normalsize, large, Large, LARGE, huge, Huge

title [] sets the title of a puzzle.

titleindent [0cm] defines the indent of the title.

titlewidth [5.1cm] specifies the width of the box the title is set in.

bgcolor [] sets the background color of the grid.

counterstyle [none] defines the counter style. Predefined styles: none, left, right

cvoffset [-23pt] sets the vertical offset of the counters in the margin.

3 Environments

3.1 ddsudoku

```
\begin{ddsudoku}[⟨options⟩]
...
\end{ddsudoku}
```

The ddsudoku environment is the central core of the style file. With the optional argument of the environment, you can reset the options with local scope. Here, a blank grid is created.

4 Commands

4.1 In the grid and around

4.1.1 ddsudokucell

```
\ddsudokucell{⟨column⟩}{⟨row⟩}
{⟨number⟩}
```

The command \ddsudokucell sets the ⟨*number*⟩ of the grid cell ⟨*column*⟩⟨*row*⟩.

4.1.2 setrow

```
\setrow{⟨row⟩}{⟨csv list⟩}
```

The command \setrow sets the contents of ⟨*row*⟩. It expects a comma-separated list.

4.1.3 setcolumn

```
\setcolumn{⟨column⟩}{⟨csv list⟩}
```

The command \setcolumn sets the contents of ⟨*column*⟩.

4.1.4 filldiagonals

\filldiagonals[[⟨*color*⟩]]

With the `\filldiagonals` command, you can fill the diagonals with the color specified with the optional argument [⟨*color*⟩] (default: yellow!20). Furthermore, it checks for a quadratic grid, otherwise an error message is issued.

4.1.5 framepuzzle

\framepuzzle[[⟨*color*⟩]]

With the `\framepuzzle` command, you can frame the grid (thicker line) with the color specified with the optional argument [⟨*color*⟩] (default: black).

4.2 Presentation

4.2.1 definecounterstyle

\definecounterstyle{⟨*name*⟩}{⟨*definition*⟩}

The command `\definecounterstyle` allows you to define your own styles. For example, the style `left` is defined as follows:

```
\definecounterstyle{left}{
  \begingroup\reversemarginpar\marginnote{
  \tikz\node[shape=rectangle,fill=yellow!40,inner sep=7pt,
             draw,rounded corners=3pt,thick]
  {\Huge\puzzlecounter};}[\LP@cvoffset]\endgroup}
}
```

To typeset the counter into the margin we use the command `\marginnote`. We need to use the command `\reversemarginpar` to set the counter into the left margin. Of course, we must use this command in a group for local scope. Finally we use `\puzzlecounter` in a `\tikz` node with a vertical offset set with the option `cvoffset`.

4.2.2 puzzlecounter

\puzzlecounter

The command `\puzzlecounter` provides the counter in textual form to use it for example in `\definecounterstyle`.

4.2.3 titleformat

\titleformat{⟨*format*⟩}

With the command `\titleformat`, you can define the format of the title. By default, the definition is as follows:

```
\titleformat{\centering\Large\color{blue}}
```

4.3 Miscellaneous

4.3.1 ddsudokusetup

\ddsudokusetup{⟨*options*⟩}

With the command `\ddsudokusetup` you can reset the options with global scope.

4.3.2 setpuzzlecounter

`\setpuzzlecounter{⟨number⟩}`

With the command `\setpuzzlecounter`, you can reset the puzzle counter, for example before the solutions.

5 Examples & Solutions

You can download application examples and their solutions from the project page. The puzzles are originally licensed under 🅭🅯🄏🄎.