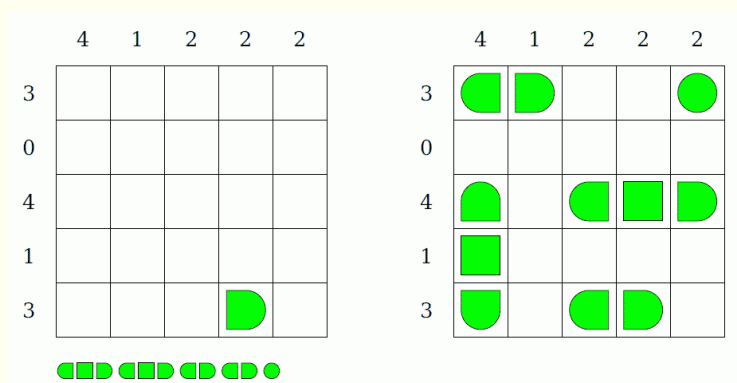


battleship.sty

v1.3

A style file for typesetting Battleship logic puzzles



February 28, 2013

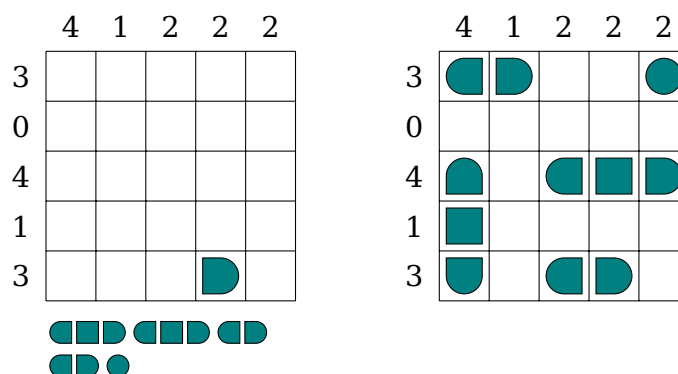
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1 The puzzle

Try to find the positions of the ships listed below the puzzle. The numbers on the side of the puzzle reveals how many ship segments can be found in the rows and columns. All remaining fields indicate 'water'. Consider the following rules: The ships are arranged horizontally and vertically. No ship touches another ship at any point, not even diagonally. Here's a little self-explanatory example:



```

1 \begin{center}
2   \begin{battleship}
3     \placesegment{4}{1}{\ShipR}
4     \shipH{4,1,2,2,2}
5     \shipV{3,1,4,0,3}
6     \shipbox{3,3,2,2,1}
7   \end{battleship}
8   \hspace{1cm}
9   \begin{battleship}
10    \placeship{V}{1}{1}{3}
11    \placeship{H}{1}{5}{2}
12    \placeship{H}{3}{1}{2}
13    \placeship{H}{3}{3}{3}
14    \placeship{H}{5}{5}{1}
15    \shipH{4,1,2,2,2}
16    \shipV{3,1,4,0,3}
17  \end{battleship}
18 \end{center}

```

2 Options

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

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

shipcolor [green] sets the color of the ship segments.

width [6cm] 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 L^AT_EX sizes are used. Possible values: tiny, scriptsize, footnotesize, small, normalsize, large, Large, LARGE, huge, Huge

title [] sets the title of a puzzle.

titleindent [0.75cm] defines the indent of the title.

titlewidth [5.15cm] specifies the width of the box the title is set in.

sbindent [0.75cm] defines the indent of the ship box below the grid.

sbwidth [5.15cm] specifies the width of the minipage, in which the ships are typeset.

sbshipscale [1] scales the size of the ships in the ship box.

bgcolor [] sets the background color of the grid.

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

cvoffset [-38pt] sets the vertical offset of the counters in the margin.

3 Environments

3.1 battleship

```
\begin{battleship}[\langle options \rangle]
...
\end{battleship}
```

The battleship 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 that you can fill with ships using other commands.

4 Commands

4.1 Ships, water, islands, ...

4.1.1 placeship

```
\placeship{\langle direction \rangle}
{\langle column \rangle}{\langle row \rangle}{\langle length \rangle}
```

With the command `\placeship` you can place complete ships in the grid. It expects the specification of the direction as horizontal (H) or vertical (V). Furthermore, it requires the starting coordinates and the length of the ship.

4.1.2 placesegment

`\placesegment{⟨column⟩}{⟨row⟩}`
`{⟨ship segment⟩}` The command `\placesegment` is used for the placement of ship segments in the grid. In the mandatory argument `⟨ship segment⟩`, you can use the following commands:

<code>\Ship</code>			<code>\ShipC</code>
<code>\ShipL</code>			<code>\ShipR</code>
<code>\ShipB</code>			<code>\ShipT</code>





4.1.3 ship

The command `\ship` was replaced by the `\placesegment` command. The command `\ship` is deprecated and should not be used longer. It may still be used, but it is not recommended.

4.1.4 placewater

`\placewater{⟨column⟩}{⟨row⟩}` With the command `\placewater` you can place water markers (•) in the grid.

4.1.5 placeisland

`\placeisland{⟨column⟩}{⟨row⟩}` With the command `\placeisland` you can place islands () in the grid. The island outlines are created randomly: , , , ...

4.2 Presentation

4.2.1 shipH

`\shipH{⟨csv list⟩}` The command `\shipH` typesets the horizontal numbers above the grid. It expects a comma-separated list as an argument.

4.2.2 shipV

`\shipV{⟨csv list⟩}` The command `\shipV` typesets the vertical numbers beside the grid. It also expects a comma separated list.

4.2.3 shipbox

`\shipbox{⟨csv list⟩}` The command `\shipbox` defines the number and size of the ships, which are typeset under the grid.

4.2.4 definecounterstyle

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

```
1 \definecounterstyle{left}{
2   \begingroup\reversemarginpar\marginnote{
3     \tikz\node[shape=rectangle,fill=yellow!40,inner sep=7pt,
4       draw,rounded corners=3pt,thick]
```

```

5   {\Huge\puzzlecounter};}{\LP@cvmoffset}\endgroup}
6   }

```

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 `cvmoffset`.

4.2.5 puzzlecounter

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

4.2.6 titleformat

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

```

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

```

4.3 Miscellaneous

4.3.1 battleshipsetup

`\battleshipsetup{<options>}` With the command `\battleshipsetup` you can reset the options with global scope.

4.3.2 classicgame

`\classicgame{<csv list>}` The command `\classicgame` typesets a game sheet for playing classic Battleship. It expects a comma separated list with the number and sizes of the ships.

4.3.3 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 .

You can also download a [game sheet](#) for playing the classic Battleship.