

ksbaduk

Drawing Baduk (go) Diagrams with TikZ

version 0.6.2

Nova De Hi

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1 Introduction

This small package edits in \LaTeX the recordings of *baduk*. *baduk* is a traditional board game of long history in the East Asia, in which two players alternately put black and white stones trying to take possession of the territory on the board.

The ‘ks’ in *ksbaduk* takes its name from the name of the author. *baduk* is the Korean name for this game.¹ *badukpan* (*goban* in Japanese) is the name for the board with 19 by 19 lines on which the game is played. The title of this package originated from these words.

This package utilizes *TikZ* to draw the *baduk* diagrams, thus let everyone make a nice printable output from simple and elementary inputs.

2 How to use

2.1 Options

```
\usepackage[%
  ball, % plain
  badukpancolor=<color>,
  badukpansize=<number>,
  posmark,
```

¹*wéiqí* in Chinese and *igo* or just *go* in Japanese.

```

    imageback,
    imagefile=<file>,
    textcmds,
    numberfont=<font>,
    tmarkfont=<font>
]{ksbaduk}

```

ball,plain Enables or disables the mass effect on the stones. The default is `plain`.

badukpancolor Specifies the color for the board. Use the color names from `xcolor`. The Default is `yellow!20`.

badukpansize Specifies the size for the board. Positive numbers are only allowed. The default is 10. Changing this size may cause callouts, including stone numbers, to look ugly. It's allowed to change callout-related parameters. However, do not make the board too big or small.

posmark Shows line numbers on the left side and above the board. This option is not effective when part of the board is only displayed.

imageback Shows or hides the background image for the board.

imagefile Specifies the background image for the board. If not specified, `badukpan.jpg` is used by default.

textcmds Enables the `\...Text` commands that allows you to display stones in your descriptions.

numberfont Specifies the font command to print the stone numbers. Use like this: `numberfont={\bfseries\small}`.

tmarkfont Specifies the font command to print the letter printed by using `\TextMark`.

2.2 Commands

The following commands are provided:

\BadukpanSize Equivalent to the `badukpansize` option.

\BackgroundColor Equivalent to `badukpancolor`. `\BadukpanColor` is an alias of it.

\NumberFont Equivalent to `numberfont` option.

These commands can be used in either the preamble or the document.

2.3 Environment

```

\begin{ksbadukpan}[ball,badukpancolor=<color>,badukpansize=<size>,%
    posmark,imageback,imagefile=<file>] [<pos>]
...
\end{ksbadukpan}

```

The `ksbadukpan` environment is to be used to draw the baduk diagram. It can have two optional arguments. The first one is the same as those of the package. Only exception is `textcmds` which is unavailable here.

The second one is used to display a specific part of the board. The whole board is drawn as a default if an appropriate one is not specified among the following options: `U`, `D`, `L`, `R`, `UL`, `UR`, `DL`, `DR`. Each represents the Upper, Lower, Left, Right halves, and Upper Left, Upper Right, Lower Left, Lower Right corners, respectively.

The following commands can be used in place of the environment above.

```

\StartBaduk
\StartBadukClip{U}

```

```

\StopBaduk

```

The `\StartBaduk` or `\StartBadukClip` must pair with `\StopBaduk`. These commands work equivalently to the `ksbadukpan` environment. It is not allowed to write text in this environment.

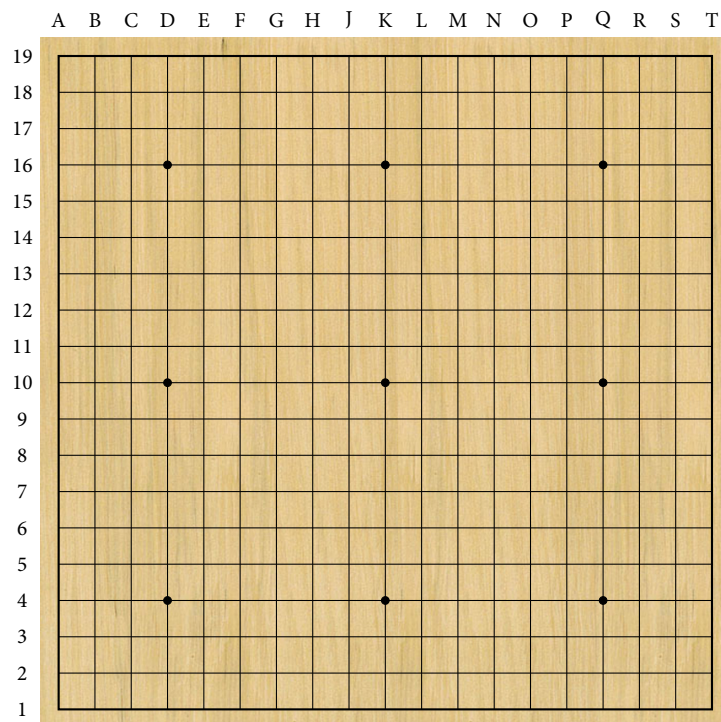


Fig. 1: The coordinates

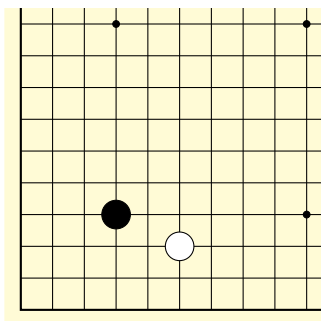
2.4 Coordinates

The grid lines are indicated in alphabetical (A to T) and numerical (1 to 19) letters. (I and J are used for the same line.) The vertical lines are indicated in alphabetical letters, and the horizontal lines are in numeric. See Fig. 1. You can use either uppercase or lowercase letters. However, it is not allowed to use both. The D4 point, for example, is not regarded as the same as d4, though they indicate the same position. Use either exclusively and consistently.

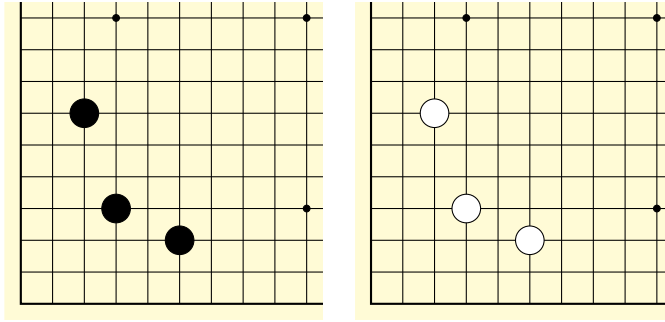
2.5 Displaying stones without step numbers

To display a black or white stone on a specific point, do like this:

```
\Black{D4} \White{F3}
```

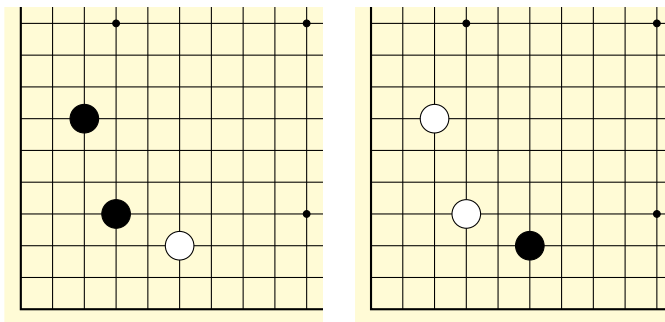


```
\Blacks{D4,F3,C7} \Whites{d4,f3,c7}
```



`\Blacks` and `\Whites` displays black or white stones without step numbers. Stone points must be separated by commas.

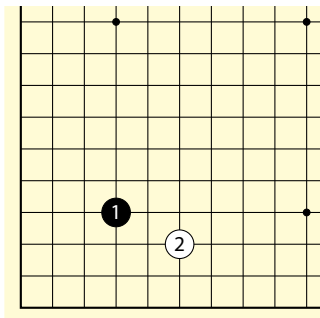
```
\BlackFirst{D4,F3,C7} \WhiteFirst{d4,f3,c7}
```



`\BlackFirst` displays black and white stones alternately, beginning with black one. `\WhiteFirst` begins with a white stone.

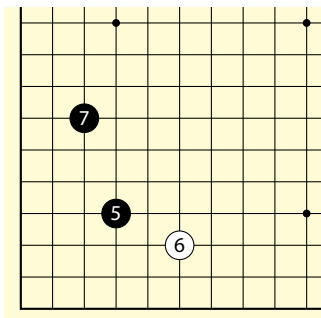
2.6 Displaying stones with step numbers

```
\BlackN{D4}{1}
\WhiteN{F3}{2}
```



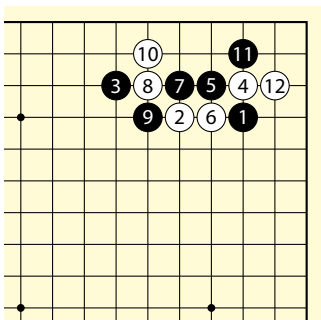
These commands require two arguments. The first one is for a stone point in which the stone is placed and the second is for a step number.

```
\BlackFirstN{D4,F3,C7}[5]
```



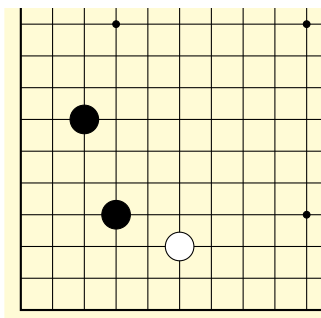
This command displays stones beginning with a black stone and specified numbers. \WhiteFirstN begins with a white stone. If nothing is specified for the optional argument, it begins with 1. And with the asterisk option (*) given, step numbers are displayed subsequently to the last stored step.

```
\BlackFirstN{r16,p16,n17}
\WhiteFirstN{r17,q17,q16}[*]
\BlackFirstN{p17,o17,o16,o18,r18,s17}[*]
```



With the asterisk option (*), the sequence of moves will not be shown. It is the same as the command \BlackFirst.

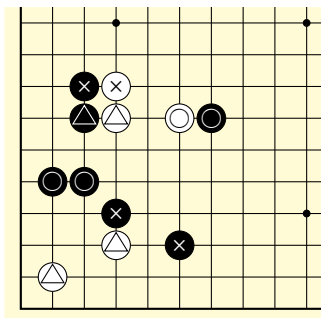
```
\BlackFirstN*{D4,F3,C7}
```



2.7 Marking stones

The following commands display stone statuses.

```
\BlackM{C7} \WhiteM{D7} \WhiteC{F7} \BlackC{G7}
\BlackD{C8} \WhiteD{D8}
\BlackDs{D4,F3} \WhiteMs{B2,D3} \BlackCs{B5,C5}
```

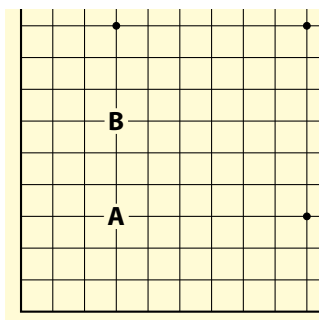
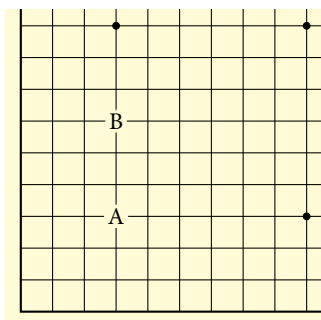


These commands can use triangles, circles and cross marks to designate specific stones. M means ‘Mark’, C means ‘Circles’ and D means ‘Dead stone’. These marks can be used for several stones simultaneously using commands ending with . . . s.

When explaining the moves, you can put letters at specific positions. Use the following commands to give a letter to a specific point. The shape or size of the letter can be changed by `tmarkfont=` optional argument of the environment.

```
\Blanket{D4}{A} \TextMark{D7}{B}
```

```
\begin{ksbadukpan}[tmarkfont={\bfseries\sffamily}] [DL]
\Blanket{D4}{A} \TextMark{D7}{B}
\end{ksbadukpan}
```



`\TextMark` is an alias of `\Blanket`.

2.8 Stones queue

```
\KSBadukContinue
```

This command shows all the stones that have appeared so far in the game without step numbers. Use the starred command to display the stones in reversed colors.

```
\ClearHistory
```

This command empties the stones queue. Use this command to start a diagram.

2.9 Dead stones

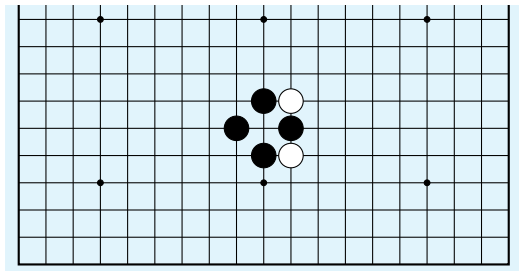
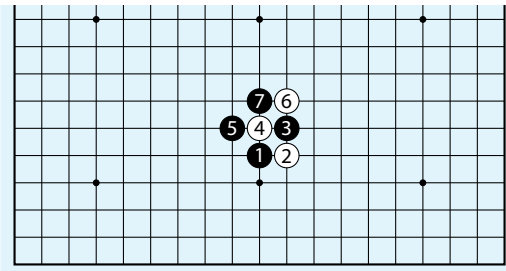
```
\RemoveStone{<pos>}
```

This command removes dead stones from the stones queue. Multiple stone points can be specified, separated by commas. Use this command to make dead stones disappear from the board, as shown by the following example.

```

\begin{ksbadukpan}[badukpansize=6] [D]
\BlackFirstN{K5,L5,L6,K6,J6,L7,K7}
\RemoveStone{K6}
\end{ksbadukpan}
\begin{ksbadukpan}[badukpansize=6] [D]
\KSBadukContinue
\end{ksbadukpan}

```



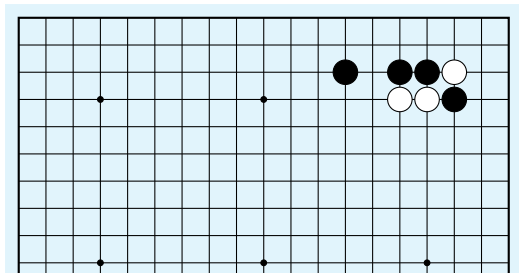
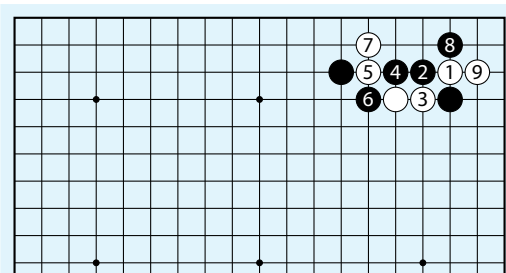
Specifying B or W for the optional argument removes only black or white stones. If no option is given, all the dead stones at the specified points are deleted.

```
\RemoveStone[W]{K6}
```

```

\begin{ksbadukpan}[badukpansize=6] [U]
\BlackFirst{r16,p16,n17}
\WhiteFirstN{r17,q17,q16,p17,o17,o16,o18,r18,s17}
\RemoveStone{o17,o16,o18,r18,s17}
\end{ksbadukpan}
\hfill
\begin{ksbadukpan}[badukpansize=6] [U]
\KSBadukContinue
\end{ksbadukpan}

```



The five number from 5 to 9 are not displayed on the right board in this example.

2.10 Saving and restoring a game

The following commands enables you to save a queue of played stones and restore it later.

```

\SaveKSBaduk{<unique name>}
\LoadKSBaduk{<saved name>}

```

Any other than alphabetical letters are not allowed to be used in a game name.

```
\DeleteSavedKSBaduk{<name>}
```

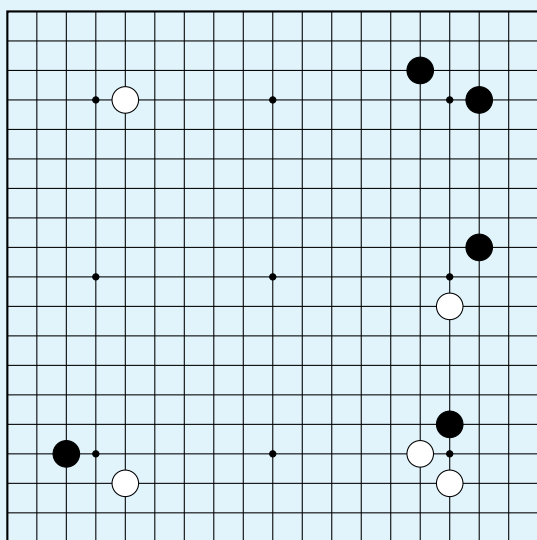
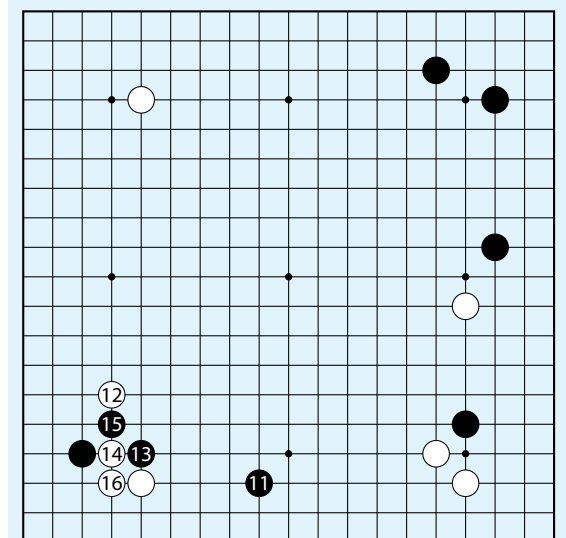
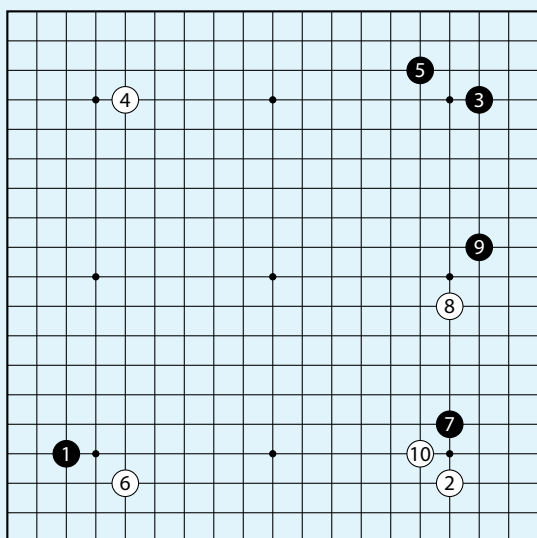
Sometimes a saved game needs to be erased.

In the following example, the restored game shows the scene which is before some stones were removed.

```
\begin{ksbadukpan}[badukpansize=6.5]
\BlackFirstN{c4,q3,r16,e16}
\BlackFirstN{p17,e3,q5,q9,r11,p4}[5]
\SaveKSBaduk{scenei} %% Saved here
\end{ksbadukpan}

\begin{ksbadukpan}[badukpansize=6.5]
\KSBadukContinue
\BlackFirstN{j3,d6,e4,d4,d5,d3}[11]
\end{ksbadukpan}

\begin{ksbadukpan}[badukpansize=6.5]
\LoadKSBaduk{scenei} %% Restored here
\end{ksbadukpan}
```



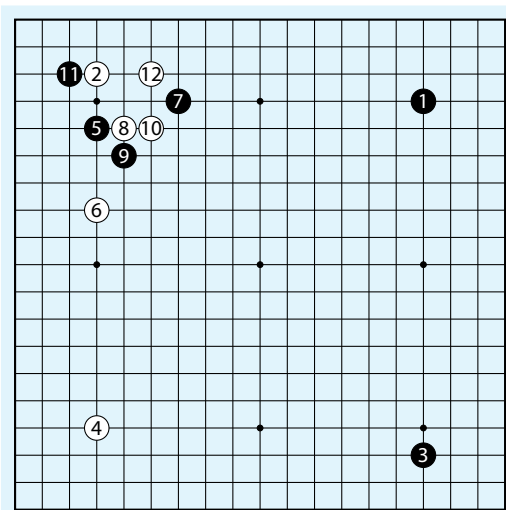
2.11 Using sgf data

The sgf (Smart Game Format)² is a standard format for *baduk* diagrams. It is possible to use the data in the sgf files. But be careful of the followings when using sgf data:

1. It cannot handle the metadata of sgf files
2. It cannot handle the comments (C). So C sentence cannot be located in the following commands.
3. Dead stones are not automatically removed from the board. So \RemoveStone should be used manually if needed.
4. It is sensitive to ; delimiter and only ;B and ;W are recognized. Do not use ; otherwise.

Use \SGFLine command to typeset the contents of sgf file data.

```
\SGFLine{;B[pd];W[dc];B[pq];W[dp];B[de];W[dh]}
\SGFLine{;B[gd];W[ee];B[ef];W[fe];B[cc];W[fc]}
```

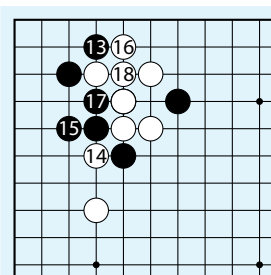


If this command is used, the prefixed sequence of moves are used throughout the document. To reset the sequence numbers, use:

```
\ResetSGFCounter
```

An optional argument is present so that the counter of the sequence can be reset. Just give the sequence number for the last move. In case no optional argument is specified, it is reset to '0' and the first move will be printed as '1'.

```
\ResetSGFCounter[12]
\SGFLine{;B[db];W[df];B[ce];W[eb];B[dd];W[ec]}
```



²http://en.wikipedia.org/wiki/Smart_Game_Format

2.12 Commands for textlike editing

To use the commands below, the `textcmds` package option must be specified.

```
\usepackage[textcmds]{ksbaduk}
```

```
\WhiteNText{<num>}, \BlackNText{<num>},  
\WhiteMText, \BlackMText,  
\WhiteCText, \BlackCText
```

These commands cannot be used inside the `ksbadukpan` environment. Use them in normal text mode. The examples above produce as follows:

⑩, ㉓, △, ▴, ○, ●

These commands are designed to display dead stones in a commentary text.

3 Acknowledgements

Many people contributed generously to this package. Jam/Ha and Gromob inspired and motivated me to write it and suggested new features. JagNa advised the Korean names for the commands, environments and the package itself. Gromob, ischo and Hoze translated this documentation into English. The author appreciates the willingness of the contributors.