# bg: A LaTeX Package to Annotate Backgammon Matches and Positions (Version 1.0)

Jörg Richter (jrichter@cs.uni-sb.de)

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## 1 Installation

This package has been installed and seems to run on a SUN Workstation under SUNOS 4.1.3, on a Pentium PC using Linux 1.09 and DOS with EmTex and on a RS/6000 under AIX. The LaTeX Version was 2e for EmTeX and 2.09 in all other cases.

To install the package, you have to put the following files in the appropriate directories (it's up to you and your local TeX guru to find out where they are, there are simply too many different TeX installations, though you should find them while look for files with similar suffixes):

| | |
|---|---|
| bg.75pk bg.150pk bg.225pk | These files contain the special fonts for the boards. |
| bg.tfm | The font metrics file for the special font. |
| bg.sty | This is the style file for LaTeX documents. |

Other files which come with this distribution and may be usefull for you are:

| | |
|---|---|
| bg.75gf bg.150gf bg.225gf | The special fonts for the boards in a different format, which some tools may request. |
| bg.mf | The original Metafont description of the special board font with which aller other font descriptions were made. |
| make_font | The script I used to compile the Metafont description. Usefull if your local settings for font generation are different from the ones on my machine. |
| sampletext.tex | A little sample application of bg.sty with a discussion of a position from rec.games.backgammon. |

I was told that if you use the font files on a DOS machine (e.g. EmTeX) you will have to change the names of the gf files and feed them to your DVI driver manually. I am currently starting to work with EmTeX, so I may be able to give detailed help on this point in the near future.

# 2 Use of the Package

The functions of this package are accessed via two LaTeX environments, `position` and `game`. With the `position` environment it is possible to draw a single board, e.g. for the discussion of a problem. With the `game` environment the moves of a game are entered in line by line. An internal board is maintained by the corresponding macros which can be printed out at any point of the game.

All boards in both environments have the same layout: The homes of both parties are on the left side with white's home on the top and black's home at the bottom. The points are numbered from the view of the party which is on move and moves are always performed from high to low numbers. The cube is always on the right side of the board.

## 2.1 The `position` Environment

The environment needs no parameters, it simply has the following form.

```
\begin{position}
 .....
```

```
\end{position}
```

The environment starts with an empty board on which checkers can be placed with special macros. There are also some macros to change special aspects of the board layout. The board is printed automatically at the end of the environment.

The following macros are available within the `position` environment:

| | |
|---|---|
| `\bigboard` | Output a big board |
| `\blackbar{n}` | Puts n black checker on the bar |
| `\blackcube{n}` | Sets the value of the cube to n and the ownership to black |
| `\blackonmove` | Black is on move |
| `\blackpoint{p}{n}` | Sets n black checkers on point number p (points are numbered as if black were on move independent from wether this is true or not). |
| `\boardcaption{text}` | Set `text` as caption under the board |
| `\dontshowcube` | Don't output the cube |
| `\dontshownumbers` | Don't show the numbers of the points |
| `\fullboard` | Show the both halfs of the board and the bar |
| `\halfboard` | Show only the left half of the board and the bar (usefull for bearoff problems) |
| `\middlecube{n}` | Set the value of the cube to n and place him in the middle |
| `\normalboard` | Output a normal board |
| `\showcube` | Output the cube at the right side of the board |
| `\shownumbers` | Show the numbers of the points |
| `\smallboard` | Output a small board |
| `\togglenumbers` | Switches the numbering of the points (view of the person on move/not on move) |
| `\whitebar{n}` | Puts n white checker on the bar |
| `\whitecube{n}` | Sets the value of the cube to n and the ownership to white |
| `\whiteonmove` | White is on move |
| `\whitepoint{p}{n}` | Sets n white checkers on point number p (points are numbered as if white were on move independent from wether this is true or not). |

The default settings of the `position` environment are

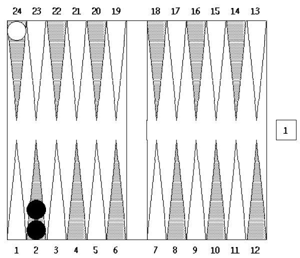
```
\blackonmove
```

```
\boardcaption{}
\fullboard
\normalboard
\showcube
\shownumbers
```

Thus the text

```
\begin{position}
\smallboard
\whitepoint{1}{1}
\blackpoint{2}{2}
\boardcaption{Black on move: Cube decision?}
\end{position}
```

results in



Black on move: Cube decision?

With the start of each new `position` environment, the value of the cube is reset to 1, the cube is placed in the middle and the boardcaption is set to `{}`. All other changes of the default values done in an earlier `position` environment (if there was one) are kept in order to facilitate the construction of a document with a continuous board layout.

## 2.2 The `game` Environment

The environment needs two parameters, which normally contain some information about the black and white player (name, score already reached etc.). Thus it looks like this

```
\begin{game}{Black players text}{White players text}
 .....
\end{game}
```

The environment starts with the board in the state before the first move of a game. Each move is entered with the `\move` macro and performed on the board which is internally maintained by the macros. Also the move is printed out formatted and with a small checker of the moving colour at the beginning. At any place in the game it is possible to print out the current position in the game with the `\print` macro.

The following macros are available within the `game` environment:

| | |
|---|---|
| `\bigboard` | Output a big board next time `\printboard` is called |
| `\blackonmove` | Black is on move (this macro should be used only before the first roll to set the winner of the opening roll) |
| `\boardcaption{text}` | Set `text` as caption under the board next time `\printboard` is called |
| `\dontindentwhite` | Don't indent the moves of white |
| `\dontshowmoves` | From now on don't print the input of the `\move` macro each time it is called, only maintain the internal board (can be used to start the annotation after the first interesting move) |
| `\dontshowcube` | Don't output the cube next time ... |
| `\dontshownumbers` | Don't show the numbers of the points next time ... |
| `\fullincr` | Increment the movenumber after every move |
| `\halfincr` | Increment the movenumber after every second move |
| `\indentwhite` | Indent the moves of white |
| `\move{roll}{moves}` | This macro means that the player on turn performed with `roll` the `moves`. Rolls are entered in the form nm, moves are entered in the form x-y, separated by commas with the numbering of the points from the view of the player on move. Identical moves have to be entered for each checker separately. |
| `\normalboard` | Output a normal board next time ... |
| `\printboard` | Print out the current position of the game |

| | |
|---|---|
| `\rawboard` | Returns the current position encapsulated in a `\mbox` (without the caption) so that it can be used for further text processing (e.g. in the middle of a text line) |
| `\showcube` | Output the cube at the right side of the board next time ... |
| `\showmoves` | From now on print the input of the `\move` macro each time it is called |
| `\shownumbers` | Show the numbers of the points next time ... |
| `\smallboard` | Output a small board next time ... |
| `\takecube` | Passes the cube to the player not on move and doubles it's value |
| `\textmove{text}` | "Performs" a move simply by outputting `text` and changing the turn to the other player (Usefull e.g. for double/pass actions) |
| `\togglenumbers` | Switches the numbering of the points |
| `\whiteonmove` | White is on move (this macro should be used only before the first roll to set the winner of the opening roll) |

The default settings of the `game` environment are

```
\blackonmove
\boardcaption{}
\halfincr
\indentwhite
\normalboard
\showcube
\shownumbers
\showmoves
```

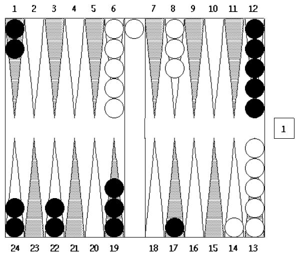
Thus the text

```
\begin{game}{Black}{White}
\smallboard
\whiteonmove
\move{64}{24-18, 18-14}
\move{55}{6-1,6-1,8-3,8-3}
\textmove{Doubles.}
\textmove{Takes.}
```

```
\boardcaption{Black to play 31}
\printboard
\end{game}
```

results in

| • Black | ○ White |
|---|---|
| | 1. ○ 64 : 24–18, 18–14 |
| 1. • 55 : 6–1*, 6–1, 8–3, 8–3 | |
| | 2. ○ Doubles. |
| 2. • Takes. | |




Black to play 31

With the start of each new `game` environment, the value of the cube is reset to 1, the cube is placed in the middle, the boardcaption is set to `{}` and `\blackonmove` is set. All other changes of the default values done in an earlier `game` environment (if there was one) are kept because of the reasons already mentioned above. `\dontindentwhite` and `\indentwhite` can also be used outside the `game` environment to change the layout of the header line which is written at the start of the environment. The use of the other macros outside an environment is not encouraged though possible at the moment (but maybe not in later versions).

## 3 Bugs and Features

No error checking is done during the execution of the macros, specially it is possible to use macros in the wrong environment. This can result in strange looking boards or even in an error message by latex.

The dot pattern of the dark points of the boards isn't completely uniform. This is a rounding problem of metafont that I didn't get fixed. Any help on this point would be highly appriciated.

A single board seems to eat quite a lot of storage which may result in latex running out of memory (though I had no problems so far with biglatex).

No support for TEX documents so far.

This documentation itself could be a little bit more detailed and better formatted.

Please send bugreports to jrichter@cs.uni-sb.de. As the features of this style are still under construction all sort of comments are also welcome.

## 4 Licensing

Use (commercial and private) and distribution of this package are free as long as you don't change anything in it, especially not my copyright.

Should you write a fundamental work about backgammon with it, please mention my package in the foreword. :-)