

Creating diagrams for chess problems

Version 1.5.4

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2011/06/04

Abstract

It has been more than ten years now, since we last published a documented version of the `diagram.sty`, which is mainly intended to be used for typesetting chess problems. Since 1994 I (Stefan Höning) made a couple of enhancements to the sourcecode of the style, without publishing and putting this into the documentation. We also needed to upgrade to $\text{\LaTeX} 2\epsilon$. The major change is the documentation language, which is english now.

The style itself tries to collect very detailed information about a chess problem by providing a lot of commands, which you may use to specify the necessary information. There are different reasons for this. One idea was to enable people to read \LaTeX -diagrams into databases with information as detailed as possible. Otherwise it should be easy to change the layout of a diagram by applying a changed style - not by changing the source.

Contents

1	Creating diagrams	3
1.1	An introductory example	3
1.2	Elements of a diagram	4
1.2.1	Collecting the problem information	4
1.2.2	Modifying the layout of the diagram (and the solution)	6
1.2.3	Other commands	7
1.3	Special boards	8
1.3.1	Changing the boardsize	8
1.3.2	Stereo- and Space-Chess-Diagrams	8
1.3.3	Cylindric boards / suppressing frames	10
1.3.4	figurine Notation	10
1.3.5	Changes within the board	10
1.4	Misc	11
1.4.1	Chess pieces within normal text	11
1.4.2	Other often used symbols	12
1.4.3	Internationalization	12
1.4.4	When writing books	13
2	The documentation driver	13
3	The implementation of the style	14

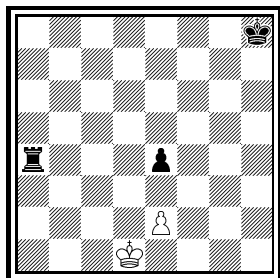
1 Creating diagrams

1.1 An introductory example

Let us first take a look at a simple example which should only show what you have to type into your L^AT_EX-code to get nice looking diagrams.

1

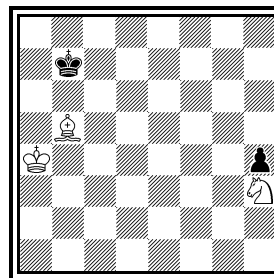
Thomas Brand
Problemkiste 1992
Elmar Bartel gew.



h#7 C- (2+3)

2

Thomas Brand
Problemkiste 1992



h#5 C- (3+2)

1) **Thomas Brand:**

1.Ta3 Kc2!, 2.Tf3 e×f3, 3.e3 f4, 4.e2 f5, 5.e1T f6, 6.Th1! (Te7?) f7, 7.Th7 f8D#

2) **Thomas Brand:**

1.Ka8 Sg1, 2.h3 Ka5, 3.h2 Kb6, 4.h×g1L+ Kc7, 5.La7 Lc6#

To use the package you have to make it available to L^AT_EX using `\usepackage{diagram}` inside the preamble of your document.

Then you may use the `diagram` environment to create the diagrams. For the above example I had to type the following:

```
\begin{diagram}
\author{Brand, Thomas}
\source{Problemkiste} \year{1992}
\dedic{Elmar Bartel gew.}
\pieces[2+3]{wKd1, wBe2, sKh8, sBe4, sTa4}
\stip{h\#7}
\sol{1.Ta3 Kc2!, 2.Tf3 e\x f3, 3.e3 f4, 4.e2 f5, 5.e1T f6,
6.Th1! (Te7?) f7, 7.Th7 f8D\#}
\end{diagram}
%
\hfill
%
\begin{diagram}
\author{Brand, Thomas}
\source{Problemkiste} \year{1992}
\pieces[3+2]{wKa4, wLb5, wSh3, sKb7, sBh4}
\stip{h\#5}
\sol{1.Ka8 Sg1, 2.h3 Ka5, 3.h2 Kb6, 4.h\x g1L+ Kc7, 5.La7 Lc6\#}
\end{diagram}
```

`\putsol`

`diagram` Any information which belongs to a problem should be put between `\begin{diagram}` and `\end{diagram}`. The above examples contains information for *authors*, *source*, *year of publication*, *stipulation*, *solution* and (in diagram 1) a *dedication*.

This information is shown around a chessboard except the solution, which is collected and put into the output using the `\putsol` command.

1.2 Elements of a diagram

This section describes the elements which may be used inside a `diagram` environment. For most of these elements there is no sense using them between `\begin{diagram}` and `\end{diagram}`. Some of them will not work outside of the environment (like `—`). In case you use these switches anywhere outside you will specify the information for all problems in your surrounding environment (which may be the complete document).

1.2.1 Collecting the problem information

The following information is typically given with a problem:

`\author`

- With the `\author` tag you specify one author or a list of authors. If you specify more than one author, you must separate them with `”;` `”`. Normally an author is given as *”surname, givenname”*. You may change the way, how the name is interpreted by L^AT_EX using `\normalnames` and `\reversednames`. This `\author` command does only overwrite the default behaviour when used inside a diagram environment.

`\pieces`

- With `\pieces` you specify the position to be displayed on the board. For each kind of piece you may specify a list of fields. Different lists of fields are separated by `”`, `”`. So the general syntax for specifying the position of a specific piece is:

`[color][piece]{rotation of piece}[list of squares];`

e.g. `wTa1h1` should be clear, `nKa4` is a neutral king on a4

`w s n` may be used to specify the color of the piece.

`K D T L S B` may be used to specify the piece.

`R U L` may be used to specify an optional rotation: right, upside-down, left. So you may use `sDuc7` for a grasshopper on c7 — displayed as an upsidedown queen.

The characters used to specify color, piece and rotation may be changed using the `\DefinePieces` command.

You may also optionally specify the number of pieces in your diagram, which then will be used to control your input automatically.

There is also support for an imitator, which is typically displayed as a black filled circle. So `sCf4` will produce the symbol of an imitator. This is shown in diagram 3.

`\stipulation`
`\stip`

- is used to specify the stipulation of the problem, e.g. `\stipulation{#2}` may be used to specify a *mate in two*. There is also an abbreviation `\stip` for this macro.

<code>\city</code>	<ul style="list-style-type: none"> • may be used to specify the city and country, where the author or the authors live. I use this inside the original section of <i>Die Schwalbe</i>. You should separate multiple cities (for multiple authors) with ”; ”.
<code>\specialdiagnum</code>	<ul style="list-style-type: none"> • May be used to suppress the default diagram numbering (which uses a counter) and instead directly providing a diagram ”number” which may be an arbitrary text.
<code>\sourcennr</code>	<ul style="list-style-type: none"> • May be used to specify the number which was used for the problem inside an originals section.
<code>\source</code>	<ul style="list-style-type: none"> • May be used to specify the book or magazine where the problem was issued first.
<code>\issue</code>	<ul style="list-style-type: none"> • May be used to specify e.g. the issue of a magazine where the problem was issued.
<code>\pages</code>	<ul style="list-style-type: none"> • May be used to specify the page (or pages) where the problem was issued.
<code>\day</code>	<ul style="list-style-type: none"> • May be used to specify the different parts of the date of publication of the problem. (E.g. for problems issued in the german magazine <i>Die Schwalbe</i> you will typically only specify the <code>\month</code> and the <code>\year</code>. For problems issued in <i>feenschach</i> you may specify a period of months like <code>\months{7-10}</code>.)
<code>\month</code>	
<code>\months</code>	
<code>\year</code>	
<code>\tournament</code>	<ul style="list-style-type: none"> • May be used to specify an award and a tournament for the problem.
<code>\award</code>	<ul style="list-style-type: none"> • May be used to specify a dedication which was given by the author of the problem.
<code>\dedication</code>	
<code>\dedic</code>	
<code>\condition</code>	<ul style="list-style-type: none"> • May be used to specify the fairy conditions of a problem. Different conditions should be separated with ”; ”.
<code>\cond</code>	
<code>\twins</code>	<ul style="list-style-type: none"> • May be used to specify the different twins of a problem. Different twins should be separated with ”; ”.
<code>\remark</code>	<ul style="list-style-type: none"> • May be used to specify remarks to the problem. I typically use this to explain fairy pieces on the board. You may also use the abbreviation <code>\rem</code>.
<code>\rem</code>	
<code>\solution</code>	<ul style="list-style-type: none"> • <code>\solution</code> may be used to specify the solution of the problem. Normally this information is not used while displaying the board but it is only collected and may be put into your text using <code>\putsol</code>. There is also an abbreviation <code>\sol</code>.
<code>\sol</code>	
<code>\judgement</code>	<ul style="list-style-type: none"> • May be used to describe the judgement given for a problem, e.g. when you are working on an award or when you are selecting problems for a ”best of ...” book.
<code>\comment</code>	<ul style="list-style-type: none"> • May be used to specify some comment on the problem (e.g. the authors original comment.)
<code>\themes</code>	<ul style="list-style-type: none"> • May be used to specify themes displayed in the problem. Different themes should be separated with ”; ”. When creating a theme index, the themes will automatically be used to create the register.

There are some commands which not only collect information but normally direct result in a change of the diagram. These are:

<code>\verticalcylinder</code>	• does not display the outer vertical lines to symbolize a verticalcylindric board.
<code>\horizontalcylinder</code>	• does not display the outer horizontal lines to symbolize a horizontalcylindric board.
<code>\noframe</code>	• does completely suppress the outer frame e. g. to symbolize a torus board.
<code>\noinnerframe</code>	• sometimes you need to suppress the inner frame instead of the outer frame which is achieved by using <code>\noinnerframe</code> . You may not use this together with <code>\noframe</code> .
<code>\gridchess</code>	• displays lines to seperates fieldsections for gridchess.

1.2.2 Modifying the layout of the diagram (and the solution)

There are a couple of switches which control the layout of the diagrams. These are typically used more generally, so you may specify these switches outside the `diagram` environment or use them in your own style, which depends on `cpd.sty`.

There are some switches which control the layout of the information which is displayed above a diagram:

<code>\diagleft</code>	• displayes the information left aligned
<code>\diagcenter</code>	• displayes the information centered
<code>\diagright</code>	• displayes the information right aligned
<code>\widedias</code>	• is like <code>\diagcenter</code> but the information shown above the diagram may span the whole width of the page. So \LaTeX will not wrap long author names.
<code>\dianamestyle</code> <code>\solnamestyle</code>	Using <code>\dianamestyle</code> (or <code>\solnamestyle</code>) you may specify how author-names are written above the boards (or before the solutions). You may use this only if you use <code>\reversednames</code> (which is the default). Otherwise it is not possible to distuingish between firstname and sirname. You must specify one of the following options as parameter to <code>\dianamestyle</code> (or <code>\solnamestyle</code>):

fullname Writes the authorname as *firstname surname*. This is the default.

sirname Writes the *sirname* only.

short Writes an abbreviation of the *firstname* and the *sirname*. The abbreviation is calculated as follows:

- The first letter of the *firstname* will be used.
`\author{Brand, Thomas}` will be displayed as **T. Brand**
- When there is a combined *firstname* separated with a hyphen, each first letter will be used. (see below)
`\author{Reich, Hans-Peter}` will be displayed as **H.-P. Reich**

- When specifying the author name, you may provide the abbreviation for the first name using the form *surname, firstname/abbreviation*. `\author{Brand, Thomas/Th.}` will be displayed as **Th. Brand**

`noname` displays nothing

`\diagnumbering` The same way you may specify `\pagenumbering` you may specify the format the diagrams are numbered using `\diagnumbering` and `\pagenumbering` you may specify `arabic`, `Roman`, `roman`, `Alph` or `alph`. The default used is `arabic`. This command also switches the display for diagram numbers on.

`\setmonthstyle` You may also specify the way a month is displayed using `\setmonthstyle`. There are some boolean switches, which control whether a specific information is displayed. These are as follows:

`piececounter` • This is a L^AT_EX boolean, which is used to specify whether the number of pieces is displayed below the board. So you may change its value using `\setboolean{piececounter}{true}` or `\setboolean{piececounter}{false}`.

`showcomputer` • There is a boolean value `computer`, which controls whether the information about a computer proof is displayed or not. This value may be changed using `\setboolean{showcomputer}{true}` or `\setboolean{showcomputer}{false}`
`\nocomputer`
`\showcomputer` For backwards compatibility we support the macros `\nocomputer` and `\showcomputer`.

`\notcomputerproofedsymbol` You may specify the text, which is used to indicate, whether a problem is
`\computerproofedsymbol` proofed by a computer. To specify the symbol for a problem, which is proofed, is created by `\computerproofedsymbol`. To specify the symbol for a problem, which is not computer proofed, is created by `\notcomputerproofedsymbol`. You may redefine these commands by standard L^AT_EX means (`\renewcommand`).

`\selectelchfont` You may specify which font is used for the chess pieces. There are two possible fonts:

pk for the font which was originally used in the german magazine *Problemkiste* ♔♚♜♛♞♟♠♡♢♣♤♥♦♧♨♩

fs for the font which was first used (and was created for) the magazine *feenschach* ♔♚♜♛♞♟♠♡♢♣♤♥♦♧♨♩

`\diagramx` In analogy to the defaults for font sizes of a document you may specify sizes of the fonts used in a diagram. The default will be set according to the font size specified as the `\documentclass` option.
`\diagramxi`
`\diagramxii`

1.2.3 Other commands

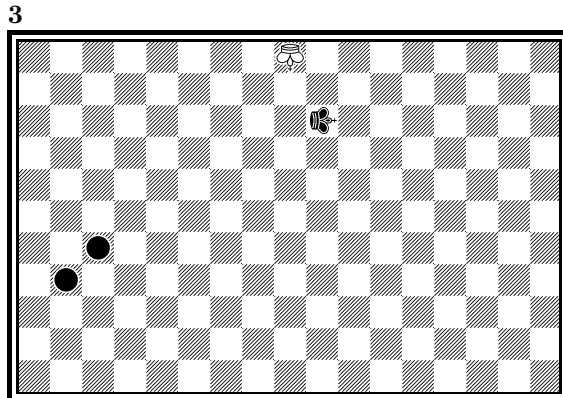
`\label` • This overrides the normal `\label` definition such that the diagram number is displayed when using `\ref` instead of the page number.

`\diagram` • This macro expects a number as a parameter. The number will be used to (re-)initialize the diagram number counter. With this command the output of diagram numbers also is switched on. It must be used outside the `diagram` environment.

1.3 Special boards

1.3.1 Changing the boardsize

`diagram[]` Instead of using a boardsize of 8×8 some fairy problems need smaller or larger boards. This can be achieved by specifying the rows and columns as an optional parameter to the `\begin{diagram}` environment. You first have to specify the lines and then the rows as the following examples shows.



is created by

```
\begin{diagram}[17x11]
\label{bigdia}
\pieces{wKU{i}{11}, sKRj9, sCc5b4}
\end{diagram}
```

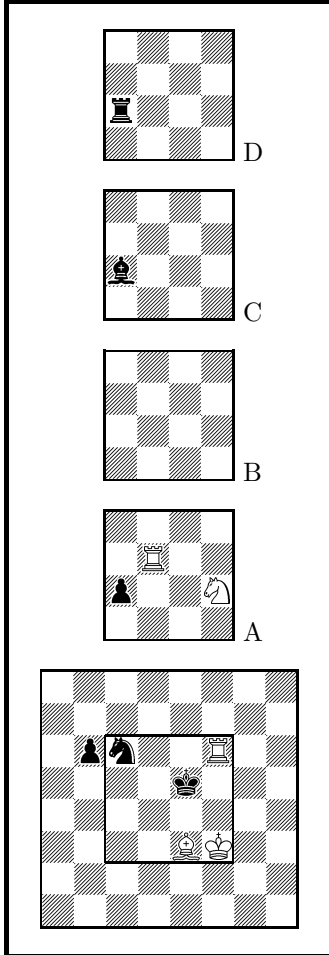
C- (1+1)

As you can see in the example, pieces are set using the `\pieces` macro. When using boards with more than 8 lines you have to continue with characters **i**, **j**, **k**, ... In a board with more than 9 rows you have to specify the rows in curly braces `{ }` as shown in the example.

1.3.2 Stereo- and Space-Chess-Diagrams

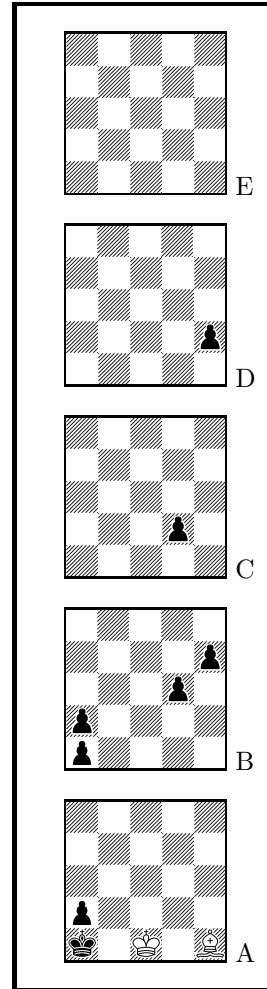
`stereodiagram`
`spacediagram[]` Other boards which are used from time to time are stereo chess or space chess boards (although there are quite few people which really have such boards!). To create these boards you just have to use either the `stereodiagram` or `spacediagram` environment instead of the normal `diagram` environment. Here is an example:

4
 Gerhard W. Jensch
 3104. *feenschach* 1980
 Preis



#9 C- (5+6)

5
 T. R. Dawson
 6595. *Fairy Chess*
 Review 12/1945



#2 C- (2+8)

These diagrams have been produced by the following code:

```

\begin{stereodiagram}
\author{Jensch, Gerhard W.}
\source{3104.}
\source{feenschach}
\year{1980}
\award{Preis}
\pieces{wKf3, wTf6d5A, wLe3, wSf4A, sKe5, sTc4D, sLc4C, sSc6, sBb6c4A}
\stip{\#9}
\end{stereodiagram}
\hfill
\begin{spacediagram}
\author{Dawson, T. R.}
\source{6595.}

```

```

\source{Fairy Chess Review}
\month{12}
\year{1945}
\pieces{wKc1A, wLe1A, sKa1A, sBa2Aa1Ba2Bd3Be4Bd2Ce2D}
\stip{\#2}
\end{spacediagram}

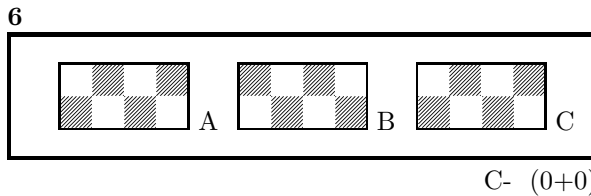
```

The main change is within the notation of the pieces, but people knowing space- or stereo-chess problems see that the notation is just one would expect.

`\spacelayout` Sometimes one would like show the different planes of a space diagram from left to right. This may be switched using the `\spacelayout` command, which takes one parameter:

vertical for planes organized bottom up

horizontal for planes organized left to right



Is produced by

```

\begin{spacediagram}[4x2x3]
\spacelayout{horizontal}
\end{spacediagram}

```

1.3.3 Cylindric boards / suppressing frames

`\horizontalcylinder` To stylize a cylindric board one typically does not show parts of the frame. `\verticalcylinder` When using `\verticalcylinder` the horizontal lines of the outer frame will not be drawn. `\horizontalcylinder` suppresses the drawing of the vertical lines of the outer frame. Using `\noframe` completely suppresses the outer frame. `\noinnerframe` suppresses the innerframe. In case of stereo- or spacechess-diagrams `\verticalcylinder`, `\horizontalcylinder` and `\noframe` suppresses the inner frame.

1.3.4 figurine Notation

`figurine` Instead of using the `diagram`, `stereodiagram` or `spacediagram` environment one may use the `figurine` environment. This suppresses the diagram output and produces a figurine notation inside the current text.

1.3.5 Changes within the board

`\nofields` You may remove single fields by using the `\nofields` or `\nosquares` command. `\nosquares` Using this command does make sense for empty black fields only. This command expects a list of squares separated by `''`, `''`. You may also use this command within a stereo- or space-diagram. In this case you must specify the fields the same way you do it inside the `\pieces` command.

`\fieldframe` You may specify single fields, which should be surrounded by a frame. This is possible using the `\fieldframe` command. You must specify the list of fields which should have frames the same way you specify fields within the `\nofields` command.

`\gridlines` A more general form of lines within diagrams is possible by using the `\gridlines` command. You may specify a list of horizontal or vertical lines within the diagram. Different lines should be separated by `''`, `''`. A single line must be specified as:

[plane](v or h)(x-coordinate)(y-coordinate)(length in squares)

You must specify a plane in case of stereo- or space-chess only. For a vertical line starting at the lower left corner of `''c2''` ending at the upper left corner of `''c8''` the command to use is: `\gridlines{v217}`. Concerning the coordinates and length specifications you should pay attention to put values greater 9 in curly braces `{ }`.

`\fieldtext` Sometimes you need to show text on some squares. This is done using the `\fieldtext` command. The syntax for a single text is: `{Text}(x-coordinate)(y-coordinate)`

Now an example how to use `\gridlines`, `\nofields` and `\fieldtext` to create some `''Letter-Board''` with text inside.

7		<pre> \begin{diagram}[9x7] \noinnerframe \nofields{a2, b2, c2, a3, b3, c3, % b5, c5, d5, b6, c6, d6, % e1, e2, e3, e4, e5, e6, e7, % g1, h1, h2, h2, g3, h3, g5, h5, g6, h6, g7, h7} \gridlines{h004, h013, h033, h143, h163, h074, % v001, v034, v142, v312, v404, v461, % h501, h571, h632, h642, h801, h871, % v507, v603, v643, v803, v843, v907} \fieldtext{{It ...}c5, {works}b2} \end{diagram} </pre>
	C- (0+0)	

1.4 Misc

1.4.1 Chess pieces within normal text

Sometimes you may need symbols of chess pieces within your normal text, e. g. to show the *Viele-Väter-Stellung* ♖c8, ♗b6, ♘a8, ♙a7. This is possible by `{\wK}c8`, `{\wB}b6`, `{\sK}a8`, `{\sB}a7`. Additionally you may use some of these symbols:




`\swL` ♖ a white bishop on a black square

`\ssL` ♗ a black bishop on a black square

`\wNr` ♘ a white nightrider

`\nNr` ♚ a neutral nightrider

`\sNr` ♛ a black nightrider

`\wGh`  a white grashopper
`\nGh`  a neutral grashopper
`\sGh`  a black grashopper
`\Imi` ● an imitator, you may also use the **Circle** notation:
`\wC` ○ a white circle
`\nC` ◐ a neutral circle
`\sC` ● a black circle

1.4.2 Other often used symbols

The style also defines commands for other symbols, which are often used within the declaration of twins or when writing a solution:

`\set` * setplay
`\ra` → a left to right arrow
`\lra` ↔ a double ended arrow
`\O0` **O-O** king side castling
`\O00` **O-O-O** queen side castling
`\x` × for "takes"
`\any` ~ for any move (you may not simply use a ~ within your text because \TeX handles this as a protected space)




1.4.3 Internationalization

`\DefinePieces` This part is relevant for people who do not like the german notation for pieces and therefore want to change this within their sources. Using the german notation, you specify the color of a piece as **w**, **s** or **n**, the type of a piece as **K**, **D**, **T**, **L**, **S**, **B** and a possible rotation of a piece as **L**, **R** or **U**. To use another notation you may use the `\DefinePieces` command which takes 3 parameters.

1. the letters used to specify the colors of the pieces using the order white, black, neutral
2. the letters used to specify the type of a piece using the order king, queen, rook, bishop, knight, pawn. You may not use a capital **C**, because this is used for circles.
3. the letters used to specify an optional rotation using the order left-turned, right-turned, upside-down. You must use capital letters for this.

When using a `\DefinePieces` command, the commands are changed to its next usage (or to the end of the document). The command not only changes the pieces you may use within the `\pieces` command but also defines commands to be used within normal text, as the following example shows:

```

\DefinePieces{wbn}{KQREBNP}{LRU}
\wDU\bKR\bWB
creates   

```

1.4.4 When writing books

`\develop` To simplify your writings you may use the macro `\develop`. This will create the following additional information during development:

- when you use `\label` in your diagrams the label will be shown at the left upper corner of the diagram.
- The given label will also be shown inside the solution and also in any register entry.
- when you have specified a `\judgement` this information will be put into the solution.

Most books on chess problems contain registers for authors, sometimes also on themes and sources. As you already collect all these information very detailed within the `diagram` environment the generation of registers is very simple.

`\makeaindex` To create a registers of authors you need to put the `\makeaindex` command
`\authorindex` inside the preamble of your document. This instructs latex to write an intermediate file containing information about authors and the numbers of the diagrams.¹ After a first L^AT_EX run on your document, you need to convert the intermediate file. This may be done with the `makeindex` program, which will typically called like

```
makeindex -o <filename>.and <filename>.adx
```

The resulting register may be put into your document using the `\authorindex` command.

`\makesindex` Like an index for authors you may also create indices for sources and/or
`\sourceindex` themes. For an source register you need to put `\makesindex` into your document
`\maketindex` preamble; for a theme register the command is `\maketindex`. The conversion
`\themeindex` commands for the intermediate files are

```
makeindex -o <filename>.snd <filename>.sdx
```

for the source register and

```
makeindex -o <filename>.tnd <filename>.tdx
```

for the theme register.

The source register is inserted into the text using `\sourceindex` and the theme register using `\themeindex`.

2 The documentation driver

The following code will generate the documentation. Since it is the first piece of code in the file, the documentation can be obtained by simply processing the file with L^AT_EX 2_ε.

```
1 (*driver)
2 \documentclass[a4paper]{article}
3 \usepackage{doc}
4 \usepackage{diagram}
5 \EnableCrossrefs
6 \CodelineIndex
7 \RecordChanges
```

¹Normally registers contain page numbers but with chess problems normally people refer to the diagram numbers.

```

8 \begin{document}
9 \DocInput{diagram.dtx}
10 \end{document}
11 \</driver>

```

3 The implementation of the style

Specifies the preamble of our style file.

```

12 (*style)
13 \ProvidesPackage{diagram}[2011/06/04]
14 \DeclareOption{10pt}{\AtBeginDocument{\diagramx}}
15 \DeclareOption{11pt}{\AtBeginDocument{\diagramxi}}
16 \DeclareOption{12pt}{\AtBeginDocument{\diagramxii}}
17 \ExecuteOptions{10pt}
18 \ProcessOptions
19 \RequirePackage{ifthen}
20 \RequirePackage{calc}

```

Now we declare some constants to unify its usage within the style file.

```

21 \chardef\f@ur=4
22 \chardef@ight=8
23 \newcount\elchfont
24
25 \chardef@pkelch=0
26 \chardef@fselch=1
27
28 \newcount\dia@type
29
30 \newif\if@textproblem\@textproblemfalse
31 \def\textproblem{\@textproblemtrue\let\@dia@stipulation=\relax}
32
33 \newif\if@solafterdiagram\@solafterdiagramfalse
34 \def\solafterdiagram{\@solafterdiagramtrue\ignorespaces}
35
36 \newif\if@vframe\@vframetrue
37 \newif\if@hframe\@hframetrue
38 \newif\if@leaveOuter\@leaveOutertrue
39
40 \newif\if@shortform
41
42 \newif\if@space@vertical
43 \def\spacehorizontal{\space@verticalfalse}
44
45 \newif\if@di@no
46 \newcounter{board@nr}
47 % \newif\if@figcnt
48 \newboolean{piececounter}
49 \newcount\r@w
50 \newcount\lin@
51 \newcount\pl@ne
52 \newcount\current@plane
53
54 \newcount\w@cnt

```

```

55 \newcount\b@cnt
56 \newcount\n@cnt

    We have counters for each color to count the pieces on the board.
57 \newboolean{cpd@checkPieceCounts}
58 \newcounter{cpd@defWhitePieces}
59 \newcounter{cpd@defBlackPieces}
60 \newcounter{cpd@defNeutralPieces}
61
62 \newcounter{cpd@whitePieces}
63 \newcounter{cpd@blackPieces}
64 \newcounter{cpd@neutralPieces}
65
66 \newcommand{\cpd@stepcounterWhite}{\stepcounter{cpd@whitePieces}}
67 \newcommand{\cpd@stepcounterBlack}{\stepcounter{cpd@blackPieces}}
68 \newcommand{\cpd@stepcounterNeutral}{\stepcounter{cpd@neutralPieces}}
69 \global\let\cpd@stepcounterPieces\relax
70
71 \newcount\help@a
72 \newcount\help@b
73
74 \newbox\dia@box
75 \newbox\@cnt@box
76 \newdimen\@cnt@wd
77 \newbox\@stip@box
78
79 \newdimen\topdist\topdist@z@
80 \newbox\@test@box
81 \newdimen\@test@dimen
82 \newif\if@left
83
84 \newcount\brd@ff
85
86 \newdimen\dia@lineskip
87
88 \newdimen\board@width
89 \newdimen\bd@width
90 \newdimen\head@width
91 \newdimen\sq@width
92
93 \newdimen\grid@width
94 \newdimen\inner@frame
95 \newdimen\outer@frame
96 \newdimen\space@frame
97 \newdimen\v@frame@dist
98 \newdimen\h@frame@dist
99 \newdimen\space@frame@dist
100 \newdimen\v@space@dist
101 \newdimen\h@space@dist
102
103 \newbox\sq@box
104 \newbox\plane@box

```

We need a lot of token registers to register the information from within the `diagram` environment. These token registers are defined here. Initially each

token register is defined to contain `\relax`, which serves as an *end-marker* when parsing lists.

```

105 \newtoks\typis@tk\typis@tk={\relax}
106 \newtoks\label@tk\label@tk={\relax}
107 \newtoks\sol@tk\sol@tk={\relax}
108 \newtoks\number@tk\number@tk={\relax}
109 \newtoks\aut@tk\aut@tk={\relax}
110 \newtoks\city@tk\city@tk={\relax}
111 \newtoks\sourcenr@tk\sourcenr@tk={\relax}
112 \newtoks\source@tk\source@tk={\relax}
113 \newtoks\day@tk\day@tk={\relax}
114 \newcount\from@month\from@month=\z@
115 \newcount\to@month\to@month=\z@
116 \newtoks\year@tk\year@tk={\relax}
117 \newtoks\issue@tk\issue@tk={\relax}
118 \newtoks\pages@tk\pages@tk={\relax}
119 \newtoks\tournament@tk\tournament@tk={\relax}
120 \newtoks\award@tk\award@tk={\relax}
121 \newtoks\after@tk\after@tk={\relax}
122 \newtoks\version@tk\version@tk={\relax}
123 \newtoks\correction@tk\correction@tk={\relax}
124 \newtoks\dedic@tk\dedic@tk={\relax}
125 \newtoks\fidealb@tk\fidealb@tk={\relax}
126 \newtoks\theme@tk\theme@tk={\relax}
127 \newtoks\twins@tk\twins@tk={\relax}
128 \newtoks\judgement@tk\judgement@tk={\relax}
129 \newtoks\comment@tk\comment@tk={\relax}
130 \newtoks\computer@tk\computer@tk={-}
131 \newtoks\nofields@tk\nofields@tk={\relax}
132 \newtoks\fieldframe@tk\fieldframe@tk={\relax}
133 \newtoks\gridlines@tk\gridlines@tk={\relax}
134 \newtoks\pieces@tk\pieces@tk={\relax}
135 \newtoks\fieldtext@tk\fieldtext@tk={\relax}
136 \newtoks\text@tk\text@tk={\relax}
137 \newtoks\stipulation@tk\stipulation@tk={\relax}
138 \newtoks\condition@tk\condition@tk={\relax}
139 \newtoks\remark@tk\remark@tk={\relax}

```

To remember, which information has been specified, we define \TeX -booleans for each command.

```

140 \newif\if@label\@labelfalse
141 \newif\if@number\@numberfalse
142 \newif\if@special\@specialfalse
143 \newif\if@auth@r\@auth@rfalse
144 \newif\if@city\@cityfalse
145 \newif\if@sourcenr\@sourcenrfalse
146 \newif\if@source\@sourcefalse
147 \newif\if@date\@datefalse
148 \newif\if@day\@dayfalse
149 \newif\if@year\@yearfalse
150 \newif\if@issue\@issuefalse
151 \newif\if@pages\@pagesfalse
152 \newif\if@tournament\@tournamentfalse
153 \newif\if@award\@awardfalse

```



```

154 \newif\if@after\@afterfalse
155 \newif\if@version\@versionfalse
156 \newif\if@correction\@correctionfalse
157 \newif\if@dedication\@dedicationfalse
158 \newif\if@fidealbum\@fidealbumfalse
159 \newif\if@twins\@twinsfalse
160 \newif\if@theme\@themefalse
161 \newif\if@computer\@computerfalse
162 \newif\if@judgement\@judgementfalse
163 \newif\if@comment\@commentfalse
164 \newif\if@pieces\@piecesfalse
165 \newif\if@fieldtext\@fieldtextfalse
166 \newif\if@nofields\@nofieldsfalse
167 \newif\if@gridlines\@gridlinesfalse
168 \newif\if@fieldframe\@fieldframefalse
169 \newif\if@stdgrid\@stdgridfalse
170 \newboolean{showcomputer}\setboolean{showcomputer}{true}%
171 \newcommand*\{computerproofedsymbol}{C+}
172 \newcommand*\{notcomputerproofedsymbol}{C-}
173 % \newif\if@show@computer\@show@computertrue
174 \newif\if@stipulation\@stipulationfalse
175 \newif\if@condition\@conditionfalse
176 \newif\if@remark\@remarkfalse
177 \newif\if@typis\@typisfalse
178 \newif\if@widedias\@widediasfalse
179 \newif\ifx@twins\x@twinsfalse
180 \newif\ifx@cond\x@condfalse
181 \newif\ifimitator\imitatorfalse
182 \newif\ifnormal@names\normal@namesfalse
183 \newif\ifs@lu
184 \newif\if@develop\@developfalse
185 \newif\if@notfirst
186 \newif\if@first

187 \newwrite\s@lfd
188 \let\below@newline=\relax
189 % These are used by the "old" board creating mechanism
190 \newcount\@lines
191 \newcount\@rows
192 \newcount\lines@max
193 \newcount\rows@max
194 \newcount\planes@max

```

The following counters are used when creating the diagram itself.

```

195 \newcounter{cpd@rowsmax}
196 \newcounter{cpd@linesmax}
197 \newcounter{cpd@current@row}
198 \newcounter{cpd@current@line}
199 \newcounter{cpd@maxsquare}
200 \newcounter{cpd@helper}
201 \newcounter{cpd@current@square@index}
202 \newcounter{cpd@current@square@value}

```

Some boolean T_EX-switches used within stereo- or spacechess diagrams.

```

203 \newif\if@stereo\@stereofalse
204 \newif\if@space\@spacefalse

```

These boolean switches are used to control the output of registers.

```
205 \newif\if@aindex\@aindexfalse
206 \newif\if@sindex\@sindexfalse
207 \newif\if@tindex\@tindexfalse
208 \newif\if@ds@label
```

`\diagram` Defines the code executed in `\begin{diagram}`. In case no optional size is given, `\@diagram` a normal 8×8 board is generated.

```
209 \def\diagram{%
210   \begingroup%
211   \@ifnextchar [{\@diagram}{\@diagram[\@ight x\@ight]}%
212 }
213
214 \def\@diagram[#1x#2]{%
215   \lines@max=#1%
216   \rows@max=#2%
217   \setcounter{cpd@linesmax}{#1}%
218   \setcounter{cpd@rowsmax}{#2}%
219   \setcounter{cpd@maxsquare}{\value{cpd@rowsmax}*\value{cpd@linesmax}}%
220   \pl@ne=\z@%
221   \current@plane=\z@%
222   \let\put@sqs=\put@sqs@normal%
223   \let\read@plane=\read@plane@normal%
224   \@start@diagram%
225 }

226 \def\stereodiagram{%
227   \begingroup%
228   \@stereotrue%
229   \let\put@sqs=\put@sqs@stereo%
230   \let\read@plane=\read@plane@stereo%
231   \@start@diagram%
232 }

233 \def\spacediagram{%
234   \begingroup%
235   \@spacetrue%
236   \@ifnextchar [{\@spacediagram}{\@spacediagram[5x5x5]}%
237 }
238
239 \def\@spacediagram[#1x#2x#3]{%
240   \lines@max=#1%
241   \rows@max=#2%
242   \planes@max=#3%
243   \let\put@sqs=\put@sqs@space%
244   \let\read@plane=\read@plane@space%
245   \@start@diagram%
246 }

247 \def\@start@diagram{%
248   \init@vars%
249   \let\author=\ds@author%
250   \let\day=\ds@day%
251   \let\month=\ds@month%
252   \let\year=\ds@year%
253   \let\label=\ds@label%
```

```

254 \ignorespaces%
255 }
256
257 \def\showtypis#1{%
258 \@typistrue%
259 \typis@tk={#1}%
260 \ignorespaces%
261 }
262
263 \def\enddiagram{%
264 \let\author=\orig@author%
265 \let\day=\orig@day%
266 \let\month=\orig@month%
267 \let\year=\orig@year%
268 \let\label=\orig@label%
269 \if@number%
270 \else%
271 \refstepcounter{board@nr}% so \label and \ref work properly
272 \fi%
273 %
274 % Now \label@tk should be set, if wanted, so
275 % we can generate the index entries
276 %
277 \@aindex%
278 \@sindex%
279 \@tindex%
280 %
281 % Now \@currentlabel will be set right, so we can use
282 % the original label
283 \if@label%
284 \expandafter\set@label\the\label@tk;%
285 \fi%
286 %
287 % Now we know, if we have frames so we can setup our dimensions
288 %
289 \global\squarewidth=\fontdimen\tw@\chessfont%
290 \if@stereo%
291 \bd@width=\@ight\squarewidth%
292 \board@width=\@ight\squarewidth%
293 \ifdim\h@frame@dist<\squarewidth%
294 \h@frame@dist=\squarewidth%
295 \fi%
296 % We do already skip with \v@space@dist
297 % So we use the additional skip \space@frame@dist here
298 \v@frame@dist=\space@frame@dist%
299 \ifdim\space@frame>\outer@frame%
300 \outer@frame=\space@frame%
301 \fi%
302 \advance\bd@width\tw@\inner@frame%
303 \advance\board@width\tw@\inner@frame%
304 \advance\board@width\tw@\h@frame@dist%
305 \advance\board@width\tw@\outer@frame%
306 \else\if@space%
307 \ifdim\h@frame@dist<1.5\squarewidth%

```

```

308     \h@frame@dist=1.5\sq@width%
309     \fi%
310     % We do already skip with \v@space@dist
311     % So we use the additional skip \space@frame@dist here
312     \v@frame@dist=\space@frame@dist%
313     \ifdim\space@frame>\outer@frame%
314         \outer@frame=\space@frame%
315     \fi%
316     \ifspace@vertical%
317         \bd@width=\lines@max\sq@width%
318         \board@width\bd@width%
319         \advance\bd@width\tw@\inner@frame%
320         \advance\board@width\tw@\inner@frame%
321         \advance\board@width\tw@\h@frame@dist%
322         \advance\board@width\tw@\outer@frame%
323     \else%
324         \bd@width=\lines@max\sq@width%
325         \advance\bd@width\tw@\inner@frame%
326         \ifdim\h@space@dist<1.5\sq@width%
327             \h@space@dist=1.5\sq@width%
328         \fi%
329         %\h@space@dist=0.7\sq@width%
330         % Now we can compute the width of the complete board
331         \board@width\bd@width%
332         \advance\board@width\h@space@dist%
333         \multiply\board@width\planes@max%
334         \advance\board@width\h@space@dist%
335         \advance\board@width\tw@\outer@frame%
336     \fi%
337 \else%
338     \bd@width=\lines@max\sq@width%
339     \ifnum\lines@max>\@ight%
340         % Make the board wider
341         \board@width=\lines@max\sq@width%
342     \else%
343         % Make a normal width
344         \board@width=\@ight\sq@width%
345     \fi%
346     \advance\bd@width\tw@\inner@frame%
347     \advance\board@width\tw@\inner@frame%
348     \advance\board@width\tw@\h@frame@dist%
349     \advance\board@width\tw@\outer@frame%
350 \fi\fi%
351 \if@widedias%
352     \head@width=\textwidth%
353 \else%
354     \head@width=\board@width%
355 \fi%
356 %
357 % Now we should build the diagram itself
358 %
359 \if@textproblem%
360     % Put the stipulation into the \sq@box
361     \setbox\sq@box=\hbox{\vbox to \board@width{\hsize\board@width%

```

```

362     \stipfont%
363     \raggedright%
364     \sloppy%
365     \the\stipulation@tk%
366     \vfil%
367   }}%
368 \else%
369   \put@sq% This builds up the \sq@box
370   % Check, if the given number of pieces is reached
371   \ifthenelse{\boolean{cpd@checkPieceCounts}}{%
372     \ifthenelse{\value{cpd@defWhitePieces}=\value{cpd@whitePieces}}{%
373       {\errmessage{Wrong number of white pieces}}%
374     \ifthenelse{\value{cpd@defBlackPieces}=\value{cpd@blackPieces}}{%
375       {\errmessage{Wrong number of black pieces}}%
376     \ifthenelse{\value{cpd@defNeutralPieces}=\value{cpd@neutralPieces}}{%
377       {\errmessage{Wrong number of neutral pieces}}%
378     }{}%
379   \fi%
380   %
381   \global\setbox\dia@box=\hbox{\vbox{%
382     \parindent\z@%
383     \parskip\z@%
384     \baselineskip11\p\advance\baselineskip\dia@lineskip%
385     \hsize\head@width%
386     \centering%
387     % diagram header
388     \vskip\topdist%
389     \vbox{\hsize\board@width\hbox{%
390       \if@develop\if@label%
391         \noindent\raggedright\llap{\labelfont\the\label@tk\ }}%
392       \fi\fi%
393       \vbox{%
394         \he@dpos\dia@above%
395       }%
396     }}%
397     \vskip\tw@p@%
398     % diagram itself
399     \vtop{\hsize\board@width%
400       \hbox to \head@width{\hss\vbox{%
401         \hsize\board@width%
402         \if@textproblem%
403           \box\sq@box%
404         \else%
405           \outer@henbox{\box\sq@box}%
406         \fi%
407       }}\hss}%
408     % diagram trailer
409     \hbox to \head@width{\hss\vtop{%
410       \hsize\board@width%
411       \parskip\z@%
412       \raggedright%
413       \put@count%
414       \dia@below%
415     }}\hss}%

```

```

416     }%
417   }}% End of \dia@box
418   \do@dia@job%
419   \endgroup%
420 }
421
422 \def\put@count{%
423   % First we build the box with the figure count
424   \ifthenelse{\boolean{showcomputer}\OR\boolean{piececounter}}{%
425     \global\setbox\@cnt@box=\hbox{%
426       \stipfont%
427       \ifthenelse{\boolean{showcomputer}}{%
428         \ \ \if@computer\computerproofedsymbol\else\notcomputerproofedsymbol\fi%
429       }{}%
430       \ifthenelse{\boolean{piececounter}}{%
431         \ \ (\arabic{cpd@whitePieces}+\arabic{cpd@blackPieces}%
432         \ifthenelse{\value{cpd@neutralPieces}>0}{+\arabic{cpd@neutralPieces}}{})}%
433       }{}%
434     }%
435     \@cnt@wd=\wd\@cnt@box%
436     \hangindent-\@cnt@wd%
437     \hangafter\m@ne%
438     \noindent%
439     \hbox to \z@{%
440       \hbox to \board@width{\hfil\unhbox\@cnt@box}\hskip -\board@width%
441     }%
442   }{}%
443 }
444
445 \let\endstereodiagram=\enddiagram
446 \let\endspacediagram=\enddiagram
447 \def\figurine{%
448   \begingroup%
449   \init@vars%
450   \let\author=\ds@author%
451   \let\day=\ds@day%
452   \let\month=\ds@month%
453   \let\year=\ds@year%
454   \let\label=\ds@label%
455 }
456
457 \def\endfigurine{%
458   \let\author=\orig@author%
459   \let\day=\orig@day%
460   \let\month=\orig@month%
461   \let\year=\orig@year%
462   \let\label=\orig@label%
463   \if@number%
464   \else%
465     \refstepcounter{board@nr}% so \label and \ref work properly
466   \fi%
467   %
468   % Now \label@tk should be set, if wanted, so
469   % we can generate the index entries

```

```

470 %
471 \@aindex%
472 \@sindex%
473 \@tindex%
474 %
475 % Now \@currentlabel will be set right, so we can use
476 % the original label
477 %
478 \if@label%
479     \expandafter\@set@label\the\label@tk;%
480 \fi%
481 %
482 \@show@figurine%
483 \endgroup%
484 }
485 %
486 \gdef\selectelchfont#1{%
487     \global\elchfont\csname @#1elch\endcsname\defaultelchfont%
488 }

```

Here we define commands to change fonts used for text above and below the diagram. You may redefine to adjust the fonts to your needs.

```

\authorfont
  \cityfont 489 \newcommand*\{authorfont}\{bfseries}
\sourcefont 490 \newcommand*\{cityfont}\{slshape}
\awardfont 491 \newcommand*\{sourcefont}\{bfseries\itshape}
\dedicfont 492 \newcommand*\{awardfont}\{itshape}
\stipfont 493 \newcommand*\{dedicfont}\{itshape}
\remfont 494 \newcommand*\{stipfont}\{rmfamily}
\labelfont 495 \newcommand*\{remfont}\{rmfamily}
\boardfont 496 \newcommand*\{labelfont}\{rmfamily}
497 \newcommand*\{boardfont}\{rmfamily}

```

We have three different default sizes for diagrams. The following commands switch font sizes used for the chess fonts to typeset the diagrams.

```

\diagramx
\diagramxi 498 \newcommand*\{diagramx}\{
\diagramxii 499     \ifcase\elchfont\relax%
500         \font\chessfont=pkch12
501         \font\chtextfont=pkch10
502     \else%
503         \font\chessfont=fselch12
504         \font\chtextfont=fselch10
505     \fi%
506     \dia@lineskip\z@
507     \dia@type\z@
508 }
509
510 \newcommand*\{diagramxi}\{
511     \ifcase\elchfont\relax%
512         \font\chessfont=pkch14
513         \font\chtextfont=pkch11
514     \else%

```

```

515     \font\chessfont=fselch14
516     \font\chtextfont=fselch11
517     \fi%
518     \dia@lineskip\@ne\p@
519     \dia@type\@ne
520 }
521
522 \newcommand*{\diagramxii}{
523     \ifcase\elchfont\relax%
524         \font\chessfont=pkelch16
525         \font\chtextfont=pkelch12
526     \else%
527         \font\chessfont=fselch16
528         \font\chtextfont=fselch12
529     \fi%
530     \dia@lineskip\tw@\p@
531     \dia@type\tw@
532 }

```

`\defaultelchfont` `\defaultelchfont` is used to define the fontsize used to typeset the diagrams depending on the documentsize.

```

533 \def\defaultelchfont{%
534     \ifcase\@ptsize\relax%
535         \diagramx\or%
536         \diagramxi\or%
537         \diagramxii%
538     \fi%
539 }

540 \def\dianamestyle#1{\def\@dianame{\csname @#1\endcsname}}
541 \def\solnamestyle#1{\def\@solname{\csname @#1\endcsname}}
542 \def\diagnum#1{\c@board@nr=#1\advance\c@board@nr\m@ne}

```

`\ra` Now we define a couple of abbreviations and special symbols often used when
`\lra` setting problem chess documents.

```

\rla 543 \def\ra{\mbox{\$ \rightarrow}}
\lx 544 \def\lra{\mbox{\$ \leftrightharrow}}
\set 545 \let\rla=\lra
\OO 546 \def\x{\mbox{\ifmmode\times\else$\times$\fi}}
\OOO 547 \def\set{\kern -.05em\raise .1ex\hbox{*}}
\any 548 \def\OO{\OO}
\OOO 549 \def\OOO{\OO\OO}
\OOO 550 \def\OOO{\OO\OO}
\OOO 551 \def\any{\ifmmode\sim\else$\sim$\fi}
\OOO 552 \def\urther{\ifmmode\rightarrow\else$\rightarrow$\fi \ignorespaces}

553 \def\spacelayout#1{\csname space#1\endcsname}
554 \def\nodiagnumbering{\global\di@nofalse}
555 \def\diagnumbering#1{%
556     \di@notrue\diagnum{\@ne}%
557     \gdef\thediag{\csname @#1\endcsname\c@board@nr}%
558 }

```

`\diagcenter` The macros `\diagcenter`, `\diagleft` and `\diagright` simply define the macro
`\diagleft` `\he@dpos` to the corresponding paragraph alignment.
`\diagright`


```

559 \def\diagcenter{\def\he@dpos{\centering}}
560 \def\diagleft{\def\he@dpos{\raggedright}}
561 \def\diagright{\def\he@dpos{\raggedleft}}

```

`\setmonthstyle` The implementation of `\setmonthstyle` does `\diagnumbering` define a command which uses the given parameter as a part of the command name.

```

562 \def\setmonthstyle#1{\def\write@month{\csname @#1\endcsname}}

563 \def\specialdiagnum#1{%
564   \@specialtrue%
565   \number@tk={#1}\@numbertrue\def\thediag{#1}\def\@currentlabel{#1}%
566   \ignorespaces%
567 }

```

`\ds@label` `\ds@author` The macros `\ds@label` and `\ds@author` are defined internally and are made public within `\begin{diagram}`. This is because the macros `\label` and `\author` are normal L^AT_EX-macros and I want to avoid to redefine these globally.

```

568 \def\ds@label{%
569   \ifstar{\ds@labelfalse\ds@xlabel}{\ds@labeltrue\ds@xlabel}%
570 }
571 \def\ds@author#1{%
572   \aut@tk={#1}\auth@rtrue%
573   \ignorespaces%
574 }

575 \def\city#1{%
576   \city@tk={#1}\@citytrue%
577   \ignorespaces%
578 }
579 \def\sourcenr#1{%
580   \sourcenr@tk={#1}\@sourcenrtrue%
581   \ignorespaces%
582 }
583 \def\source#1{%
584   \source@tk={#1}\@sourcetrue%
585   \ignorespaces%
586 }
587 \def\ds@day#1{%
588   \day@tk={#1}\@daytrue\@datetrue%
589   \ignorespaces%
590 }
591 \def\ds@month#1{%
592   \from@month=#1\@datetrue%
593   \ignorespaces%
594 }
595 \def\months#1{%
596   \@months#1;%
597   \ignorespaces%
598 }
599 \def\ds@year#1{%
600   \year@tk={#1}\@yeartrue\@datetrue%
601   \ignorespaces%
602 }
603 \def\issue#1{%

```

```

604 \issue@tk={#1}\@issuetrue%
605 \ignorespaces%
606 }
607 \def\pages#1{%
608 \pages@tk={#1}\@pagetrue%
609 \ignorespaces%
610 }
611 \def\tournament#1{%
612 \tournament@tk={#1}\@tournamenttrue%
613 \ignorespaces%
614 }
615 \def\award#1{%
616 \award@tk={#1}\@awardtrue%
617 \ignorespaces%
618 }
619 \def\version#1{%
620 \version@tk={#1}\@versiontrue%
621 \ignorespaces%
622 }
623 \def\after#1{%
624 \after@tk={#1}\@aftertrue%
625 \ignorespaces%
626 }
627 \def\correction#1{%
628 \correction@tk={#1}\@correctiontrue%
629 \ignorespaces%
630 }
631 \def\dedication#1{%
632 \dedic@tk={#1}\@dedicationtrue%
633 \ignorespaces%
634 }
635 \def\fidealbum#1{%
636 \fidealbum@tk={#1}\@fidealbumtrue%
637 \ignorespaces%
638 }
639 \def\pieces{%
640 \@ifnextchar[%
641 {\x@pieces}%
642 {\@pieces}%
643 }
644 \def\x@pieces[#1]{%
645 % We should parse the given piececounts
646 \setboolean{cpd@checkPieceCounts}{true}%
647 \@parseWhiteAndBlackCount#1+\e@list
648 \@pieces%
649 }
650 \def\@parseWhiteAndBlackCount#1+#2+{%
651 \setcounter{cpd@defWhitePieces}{#1}%
652 \setcounter{cpd@defBlackPieces}{#2}%
653 \futurelet\n@xt\cpd@checkNeutral%
654 }
655 \let\cpd@nextproc=\relax%
656 \def\cpd@checkNeutral{%
657 \if\n@xt\relax%

```

```

658     \let\cpd@nextproc=\relax%
659     \else%
660     \let\cpd@nextproc=\@parseNeutralCount%
661     \fi%
662     \cpd@nextproc%
663 }
664 \def\@parseNeutralCount#1+{%
665     \setcounter{cpd@defNeutralPieces}{#1}%
666 }
667 \def\@pieces#1{%
668     \pieces@tk={#1}\@piecestrue%
669     \ignorespaces%
670 }
671 \def\fieldtext#1{%
672     \fieldtext@tk={#1}\@fieldtexttrue%
673     \ignorespaces%
674 }
675 \def\nofields#1{%
676     \nofields@tk={#1}\@nofieldstrue%
677     \ignorespaces%
678 }
679 \let\nosquares\nofields
680 \def\gridlines#1{%
681     \gridlines@tk={#1}\@gridlinestrue%
682     \ignorespaces%
683 }
684 \def\fieldframe#1{%
685     \fieldframe@tk={#1}\@fieldframetrue%
686     \ignorespaces%
687 }
688 \def\stipulation#1{%
689     \stipulation@tk={#1}\@stipulationtrue%
690     \ignorespaces%
691 }
692 \def\condition{%
693     \@ifstar{\x@condtrue\@condition}{\@condition}%
694 }
695 \def\@condition#1{%
696     \condition@tk={#1}\@conditiontrue%
697     \ignorespaces%
698 }
699 \def\twins{%
700     \@ifstar{\x@twinstrue\@twins}{\@twins}%
701 }
702 \def\@twins#1{%
703     \twins@tk={#1}\@twinstrue%
704     \ignorespaces%
705 }
706 \def\remark#1{%
707     \remark@tk={#1}\@remarktrue%
708     \ignorespaces%
709 }
710 \def\Co#1{%
711     \ifx#1+\@computertrue\computer@tk={+}\fi%

```

```

712 \ignorespaces%
713 }
714 \long\def\solution#1{%
715 \sol@tk={#1}\global\s@ltrue%
716 \ignorespaces%
717 }
718 \def\themes#1{%
719 \theme@tk={#1}\@themetrue%
720 \ignorespaces%
721 }
722 \long\def\comment#1{%
723 \comment@tk={#1}\@commenttrue%
724 \ignorespaces%
725 }
726 \long\def\judgement#1{%
727 \judgement@tk={#1}\@judgementtrue%
728 \ignorespaces%
729 }
730 \def\noframe{%
731 \@vframefalse\@hframefalse%
732 \ignorespaces%
733 }
734 \def\noinnerframe{%
735 \@leaveOuterfalse\@vframefalse\@hframefalse%
736 \ignorespaces%
737 }
738 \def\verticalcylinder{%
739 \@vframefalse%
740 \ignorespaces%
741 }
742 \def\horizontalcylinder{%
743 \@hframefalse%
744 \ignorespaces%
745 }
746 \def\stdgrid{%
747 \@stdgridtrue%
748 \ignorespaces%
749 }

```

`\gridchess` Here we define some abbreviations and synonyms for other macros.

```

\magic 750 \let\gridchess=\stdgrid
\tourn 751 \let\magic=\fieldframe
\dedic 752 \let\tourn=\tournament
\stip 753 \let\dedic=\dedication
\cond 754 \let\stip=\stipulation
\rem 755 \let\cond=\condition
\sol 756 \let\rem=\remark
757 \let\sol=\solution

758 \def\develop{%
759 \@developtrue%
760 \ignorespaces%
761 }
762 \def\showcomputer{%

```

```

763 \setboolean{showcomputer}{true}%
764 \ignorespaces%
765 }
766 \def\nocomputer{%
767 \setboolean{showcomputer}{false}%
768 \ignorespaces%
769 }
770 \def\putsol{\immediate\closeout\s@lfd\input\jobname.sol\cl@arsol}
771 \def\widedias{\@widediastrue\diagcenter}
772 \def\nowidedias{\@widediasfalse}
773 \def\normalnames{\normal@namestrue}
774 \def\reversednames{\normal@namesfalse}
775 \def\makeaindex{%
776 \@dia@index%
777 \newindex[thediag]{author}{adx}{and}{Autorenverzeichnis}%
778 \@aindextrue\reversednames%
779 }
780
781 \def\makesindex{%
782 \@dia@index%
783 \newindex[thediag]{source}{sdx}{snd}{Quellenregister}%
784 \@sindextrue%
785 }
786
787 \def\maketindex{%
788 \@dia@index%
789 \newindex[thediag]{theme}{tdx}{tnd}{Themenregister}%
790 \@tindextrue%
791 }
792
793 \def\authorindex{\let\@idxitem\@aidxitem\printindex[author]}
794 \def\sourceindex{\printindex[source]}
795 \def\themeindex{\printindex[theme]}
796 \def\DefinePieces#1#2#3{%
797 \setPieceColor#1\@setPieceSpec#2\@setPieceRotation#3%
798 \loop@rotation%
799 \expandafter\xdef\csname\ds@black\ds@white\ds@bishop\endcsname{%
800 \noexpand\ch@fig{20}}%
801 }%
802 \expandafter\xdef\csname\ds@black\ds@black\ds@bishop\endcsname{%
803 \noexpand\ch@fig{32}}%
804 }%
805 \expandafter\xdef\csname\ds@white F\endcsname{\chessfont\ }}
806 \expandafter\xdef\csname\ds@black F\endcsname{\chessfont\char144}}
807 \expandafter\xdef\csname\ds@white Nr\endcsname{%
808 \noexpand\ch@fig{109}}%
809 }%
810 \expandafter\xdef\csname\ds@neutral Nr\endcsname{%
811 \noexpand\ch@fig{115}}%
812 }%
813 \expandafter\xdef\csname\ds@black Nr\endcsname{%
814 \noexpand\ch@fig{121}}%
815 }%
816 \expandafter\xdef\csname\ds@white Gh\endcsname{%

```

```

817     \noexpand\ch@fig{112}%
818   }%
819   \expandafter\xdef\csname\ds@neutral Gh\endcsname{%
820     \noexpand\ch@fig{118}%
821   }%
822   \expandafter\xdef\csname\ds@black Gh\endcsname{%
823     \noexpand\ch@fig{124}%
824   }%
825   \expandafter\xdef\csname\ds@white C\endcsname{%
826     \noexpand\ch@fig{145}%
827   }%
828   \expandafter\xdef\csname\ds@neutral C\endcsname{%
829     \noexpand\ch@fig{151}%
830   }%
831   \expandafter\xdef\csname\ds@black C\endcsname{%
832     \noexpand\ch@fig{157}%
833   }%
834 }
835 \def\Imi{\ch@fig{157}}

```

`\dia@above` The content of the box above a diagram is controlled by the macro `\dia@above`. It just delegates the information to a couple of other macros, which then generate the displayed information above the diagram.

```

836 \def\dia@above{%
837   \@dia@number%
838   \@dia@authors%
839   \@dia@city%
840   \@dia@after%
841   \@dia@version%
842   \@dia@source%
843   \@dia@correction%
844   \@dia@tournament%
845   \@dia@award%
846   \@dia@dedic%
847   \@dia@fidealbum%
848 }

```

`\dia@below` As before, the macro `\dia@below` creates the displayed information below the chessboard - forwarding to a couple of other macros.

```

849 \def\dia@below{%
850   \bgroup%
851   \if@stipulation%
852     \@dia@stipulation%
853   \fi%
854   \ifx@cond\else%
855     \@dia@condition%
856   \fi%
857   \ifx@twins\else%
858     \@dia@twins%
859   \fi%
860   \@dia@remark%
861   \if@solafterdiagram%
862     \below@newline%
863     \the\sol@tk%

```

```

864   \fi%
865   \noindent\hbox{}\newline\hbox{}%
866   \egroup%
867 }

```

`\@dia@number` The `\@dia@number` macro simply creates the diagram number in a single paragraph.

```

868 \def\@dia@number{%
869   {\authorfont\thediag\par}%
870 }

```

`\@dia@authors` This macro is used to create the list of authors specified within the `\author` macro inside the `diagram` environment. Depending on the T_EX-boolean `normal@names` we either simply display the registered author or parse the list of authors by using the generic `\@parseTokenList` macro.

```

871 \def\@dia@authors{%
872   \ifauth@r%
873     \bgroup%
874     \authorfont%
875     \ifnormal@names%
876       \the\aut@tk%
877     \else%
878       {\def\name@sep{\par}%
879        \@notfirstfalse%
880        \let\@action=\@dia@writename% Parse the list of authors
881        \@parseTokenlist\aut@tk;}
882     \fi%
883   \egroup%
884   \fi%
885 }

886 \def\@show@city#1;{\if@notfirst\ \slash\ \else\@notfirsttrue\fi#1}
887
888 \def\p@rsecity#1; {\@show@city#1;\l@klist}
889
890 \def\@dia@city{%
891   \if@city%
892     \bgroup%
893     \cityfont\@notfirstfalse%
894     \let\@action=\p@rsecity\@parseTokenlist\city@tk;%
895     \par%
896     \egroup%
897   \fi%
898 }
899
900 \def\@dia@after{%
901   \if@after%
902     \bgroup%
903     \dedicfont\the\after@tk\par%
904     \egroup%
905   \fi%
906 }
907
908 \def\@dia@version{%

```

```

909 \if@version%
910 \bgroup%
911 \dedicfont\the\version@tk\par%
912 \egroup%
913 \fi%
914 }
915
916 \def\@dia@date{%
917 \ifnum\from@month>z@%
918 \if@day%
919 \the\day@tk.\write@month\from@month%
920 \else%
921 \write@month\from@month%
922 \fi%
923 \ifnum\to@month>z@--\write@month\to@month\fi%
924 \if@day.\else/\fi%
925 \fi%
926 \if@year\the\year@tk\fi%
927 }
928
929 \def\@dia@source{%
930 \if@source%
931 \bgroup%
932 \sourcefont%
933 \if@sourcenr\the\sourcenr@tk\ \fi
934 \the\source@tk%
935 \if@date\ \fi\@dia@date%
936 \if@issue\ \the\issue@tk\fi%
937 \if@pages ,\ \the\pages@tk\fi%
938 \par%
939 \egroup%
940 \else%
941 \if@tournament\else\if@date%
942 \bgroup%
943 \sourcefont%
944 \@dia@date%
945 \par%
946 \egroup%
947 \fi\fi%
948 \fi%
949 }
950
951 \def\@dia@correction{%
952 \if@correction%
953 \bgroup%
954 \dedicfont\the\correction@tk%
955 \par%
956 \egroup%
957 \fi%
958 }
959
960 \def\@dia@tournament{%
961 \if@tournament
962 \bgroup%

```



```

963     \awardfont%
964     \the\tournament@tk
965     \if@source\else\if@date%
966         \ \ \@dia@date%
967     \fi\fi%
968     \par%
969     \egroup%
970 \fi%
971 }
972
973 \def\@dia@award{%
974     \if@award%
975         \bgroup%
976         \awardfont\the\award@tk%
977         \par%
978         \egroup%
979     \fi%
980 }
981
982 \def\@dia@dedic{%
983     \if@dedication%
984         \bgroup%
985         \dedicfont\the\dedic@tk%
986         \par%
987         \egroup%
988     \fi%
989 }
990
991 \def\@show@album#1/#2;{#1 FIDE-Album #2}
992
993 \def\@dia@fidealalbum{%
994     \if@fidealalbum%
995         \expandafter\@show@album\the\fidealalbum@tk;%
996         \par%
997     }\fi%
998 }
999
1000 \def\@twinskip{\ \ }
1001
1002 \def\@dia@stipulation{%
1003     \if@stipulation%
1004         \bgroup%
1005         \stipfont%
1006         \the\stipulation@tk%
1007         \ifx@twins%
1008             \let\below@newline\@twinskip%
1009             \@dia@twins%
1010         \else\ifx@cond%
1011             \let\below@newline\@twinskip%
1012             \@dia@condition%
1013         \fi\fi%
1014         \egroup%
1015         \let\below@newline\newline%
1016     \else%

```

```

1017     \x@twinsfalse%
1018     \x@condfalse%
1019     \let\below@newline\relax%
1020     \fi%
1021 }
1022
1023 \def\x@write@twin#1; {%
1024     \hskip1em#1%
1025     \@lefttrue\let\below@newline\newline%
1026     \let\@action\write@twins%
1027     \l@tklist%
1028 }
1029
1030 \def\write@twins#1; {%
1031     \setbox\@test@box=\hbox{#1\if@left~~\fi}%
1032     \ifdim\wd\@test@box>4\squarewidth%
1033         \below@newline%
1034         \@lefttrue%
1035         #1%
1036     \else%
1037         \if@left%
1038             \below@newline%
1039             \fi%
1040             \noindent\hbox to 4\squarewidth{#1\hfil}%
1041             \if@left%
1042                 \@leftfalse%
1043             \else%
1044                 \@lefttrue%
1045             \fi%
1046         \fi%
1047         \let\below@newline\newline%
1048         \l@tklist%
1049 }
1050
1051 \def\@dia@twins{%
1052     \if@twins%
1053         \bgroup%
1054         \@lefttrue%
1055         \remfont%
1056         \ifx@twins%
1057             \let\@action=\x@write@twin%
1058         \else%
1059             \let\@action=\write@twins%
1060         \fi%
1061         \@parseTokenlist\twins@tk;%
1062         \egroup%
1063         \let\below@newline\newline%
1064     \fi%
1065 }
1066
1067 \def\@dia@condition{%
1068     \if@condition%
1069         \bgroup%
1070         \@lefttrue%

```

```

1071     \remfont%
1072     \ifx@cond%
1073         \let\@action=\x@write@twin%
1074     \else%
1075         \let\@action=\write@twins%
1076     \fi%
1077     \@parseTokenlist\condition@tk;%
1078     \egroup%
1079     \let\below@newline\newline%
1080 \fi%
1081 }
1082
1083 \def\@dia@remark{%
1084     \if@remark%
1085         \bgroup%
1086         \@lefttrue%
1087         \remfont\let\@action=\write@twins%
1088         \@parseTokenlist\remark@tk;%
1089         \egroup%
1090         \let\below@newline\newline%
1091     \fi%
1092 }
1093
1094 \def\parse@params#1{%
1095     \ifcase\help@a\relax
1096         \label@tk={#1}\ifx\relax#1\else\@labeltrue\fi\or%
1097         \number@tk={#1}\ifx\relax#1\else\@numbertrue\fi\or%
1098         \aut@tk={#1}\ifx\relax#1\else\@auth@rtrue\fi\or%
1099         \city@tk={#1}\ifx\relax#1\else\@citytrue\fi\or%
1100         \sourcenr@tk={#1}\ifx\relax#1\else\@sourcenrtrue\fi\or%
1101         \source@tk={#1}\ifx\relax#1\else\@sourcetrue\fi\or%
1102         \day@tk={#1}\ifx\relax#1\else\@daytrue\fi\or%
1103         \from@month=#1\or%
1104         \to@month=#1\or%
1105         \year@tk={#1}\ifx\relax#1\else\@yeartrue\fi\or%
1106         \issue@tk={#1}\ifx\relax#1\else\@issuetrue\fi\or%
1107         \pages@tk={#1}\ifx\relax#1\else\@pagestrue\fi\or%
1108         \tournament@tk={#1}\ifx\relax#1\else\@tournamenttrue\fi\or%
1109         \award@tk={#1}\ifx\relax#1\else\@awardtrue\fi\or%
1110         \after@tk={#1}\ifx\relax#1\else\@aftertrue\fi\or%
1111         \version@tk={#1}\ifx\relax#1\else\@versiontrue\fi\or%
1112         \correction@tk={#1}\ifx\relax#1\else\@correctiontrue\fi\or%
1113         \dedic@tk={#1}\ifx\relax#1\else\@dedicationtrue\fi\or%
1114         \theme@tk={#1}\ifx\relax#1\else\@themetrue\fi\or%
1115         \twins@tk={#1}\ifx\relax#1\else\@twinstrue\fi\or%
1116         \computer@tk={#1}\or%
1117         \comment@tk={#1}\ifx\relax#1\else\@commenttrue\fi\or%
1118         \judgement@tk={#1}\ifx\relax#1\else\@judgementtrue\fi\or%
1119         \sol@tk={#1}%
1120     \fi%
1121     \advance\help@a \one%
1122     \l@@klist%
1123 }
1124

```

```

1125 \def\split@param#1{%
1126   \@labelfalse\@numberfalse\@authrfalse\@cityfalse%
1127   \@sourcerfalse\@sourcefalse\@dayfalse\@yearfalse%
1128   \@issuefalse\@pagesfalse\@tournamentfalse\@awardfalse%
1129   \@afterfalse\@versionfalse\@correctionfalse\@dedicationfalse%
1130   \@themefalse\@twinsfalse\@commentfalse\@judgementfalse%
1131   \help@a=\z@%
1132   \let\@action=\parse@params\l@klist#1\@list%
1133 }
1134 \def\@dia@solution{%
1135   \bgroup%
1136   \parindent\z@%
1137   \parskip\tw@\p@%
1138   {\bfseries%
1139     \noindent@if@label\showlabel{\the\label@tk}\fi%
1140     \the\number@tk) %
1141     \ifauth@r%
1142       \ifnormal@names%
1143         \the\aut@tk%
1144       \else%
1145         {\@notfirstfalse% We are the first one
1146         \def\name@sep{, }%
1147         \let\@action=\@sol@writename%
1148         \@parseTokenlist\aut@tk};:%
1149       \fi%
1150     \par%
1151   \fi%
1152 }%
1153 \if@develop\if@judgement\the\judgement@tk\par\fi\fi%
1154 \the\sol@tk\par%
1155 \if@comment\the\comment@tk\par\fi%
1156 \egroup%
1157 }
1158 \grid@width=0.6\p@
1159 \inner@frame=0.6\p@
1160 \outer@frame=1.2\p@
1161 \space@frame=\outer@frame
1162 \v@frame@dist=\tw@\p@%
1163 \h@frame@dist=\tw@\p@%
1164 \space@frame@dist=\z@
1165 \v@space@dist=1em
1166 \def\@show@figurine{%
1167   \noindent%
1168   \@figurine@number%
1169   \@figurine@author%
1170   \@figurine@city%
1171   \@figurine@after%
1172   \@figurine@correction%
1173   \@figurine@version%
1174   \@figurine@source%
1175   \@figurine@tournament%
1176   \@figurine@award%
1177   \@figurine@dedic%
1178   \@figurine@pieces%

```

```

1179 \@figurine@stip%
1180 \@figurine@twins%
1181 \@figurine@conditions%
1182 \@figurine@remarks%
1183 \@figurine@computer%
1184 }
1185 \def\@figurine@number{\@authorfont\thediag}}
1186
1187 \def\p@rseauthor@figurine#1,#2; {%
1188   \ifnotfirst, \else\@notfirsttrue\fi#2 #1%
1189   \l@klist%
1190 }
1191
1192 \def\@figurine@author{%
1193   {\ifauth@r%
1194     \authorfont\@notfirstfalse%
1195     \let\@action=\p@rseauthor@figurine%
1196     \@parseTokenlist\aut@tk;%
1197     \ \ %
1198     \fi}%
1199 }
1200
1201 \def\@figurine@city{%
1202   {\if@city%
1203     \cityfont\@notfirstfalse%
1204     \let\@action=\p@rsecity\@parseTokenlist\city@tk;%
1205     \ \ \ %
1206     \fi}%
1207 }
1208
1209 \def\@figurine@after{\if@after{\dedicfont\ \ \the\after@tk}\fi}
1210
1211 \def\@figurine@correction{%
1212   \if@correction{\dedicfont\ \ \the\correction@tk}\fi%
1213 }
1214
1215 \def\@figurine@version{%
1216   \if@version{\dedicfont\ \ \the\version@tk}\fi%
1217 }
1218
1219 \def\@figurine@source{%
1220   {\if@source%
1221     \sourcefont%
1222     \if@sourcenr\the\sourcenr@tk\ \fi%
1223     \the\source@tk%
1224     \if@year%
1225       \ \ %
1226       \if@day%
1227         \ifnum\from@month>\z@%
1228           \the\day@tk.%
1229           \write@month\from@month%
1230         \ifnum\to@month>\z@%
1231           -\write@month\to@month%
1232         \fi%

```

```

1233         .%
1234         \fi%
1235     \else%
1236         \write@month\the\from@month%
1237         \ifnum\to@month>\z@%
1238             -\write@month\the\to@month%
1239         \fi%
1240     /%
1241     \fi%
1242     \the\year@tk%
1243 \fi%
1244 \if@issue , \the\issue@tk\fi%
1245 \if@pages , \the\pages@tk\fi%
1246 \fi}%
1247 }
1248
1249 \def\@figurine@tournament{%
1250     \if@tournament{\awardfont\ \the\tournament@tk}\fi%
1251 }
1252
1253 \def\@figurine@award{%
1254     \if@award{\awardfont\ \the\award@tk}\fi%
1255 }
1256
1257 \def\@figurine@dedic{%
1258     \if@dedication{\awardfont\ \the\dedic@tk}\fi%
1259 }
1260 \def\show@squares#1\@list{\ch@fig{\the\help@a}#1, }
1261
1262 \def\@figurine@pieces{%
1263     {\if@pieces%
1264         \let\Action=\p@rsepieces%
1265         \let\piece@job\show@squares%
1266         \@parseTokenlist\pieces@tk,%
1267     \fi}%
1268 }
1269 \def\@figurine@stip{%
1270     \if@stipulation{\stipfont\ \the\stipulation@tk}\fi%
1271 }
1272
1273 \def\@figurine@conditions{%
1274     \if@condition{\remfont\ \the\condition@tk}\fi%
1275 }
1276
1277 \def\@figurine@twins{%
1278     \if@twins{\remfont\ \the\twins@tk}\fi%
1279 }
1280
1281 \def\@figurine@computer{%
1282     \ifthenelse{\boolean{showcomputer}}{%
1283         \if@computer\ \computerproofedsymbol\fi%
1284     }{}%
1285 }
1286

```

```

1287 \def\@figurine@remarks{%
1288   \if@remark{\stipfont\ \ \the\remark@tk}\fi%
1289 }
1290 \def\do@dia@job{\@write@sol\ifvmode\noindent\fi\unhbox\dia@box}
1291 \def\solhead#1{\split@param{#1}\@dia@solution}}
1292 \def\@write@sol{%
1293   \ifs@lu%
1294     \immediate\write\s@lfd{%
1295       \noexpand\solhead{%
1296         {\the\label@tk}%
1297         {\thediag}%
1298         {\the\aut@tk}%
1299         {\the\city@tk}%
1300         {\the\sourcenr@tk}%
1301         {\the\source@tk}%
1302         {\the\day@tk}%
1303         {\the\from@month}%
1304         {\the\to@month}%
1305         {\the\year@tk}%
1306         {\the\issue@tk}%
1307         {\the\pages@tk}%
1308         {\the\tournament@tk}%
1309         {\the\award@tk}%
1310         {\the\after@tk}%
1311         {\the\version@tk}%
1312         {\the\correction@tk}%
1313         {\the\dedic@tk}%
1314         {\the\theme@tk}%
1315         {\the\twins@tk}%
1316         {\the\computer@tk}%
1317         {\the\comment@tk}%
1318         {\the\judgement@tk}%
1319         {\the\sol@tk}%
1320       } %end of \solhead
1321     }%
1322   \fi
1323 }
1324 \def\@months#1-#2;{\from@month=#1\to@month=#2\@datetrue}
1325 \def\@dia@writename#1; {\sep@names\@dianame#1; \l@@klist}
1326 \def\@sol@writename#1; {\sep@names\@dianame#1; \l@@klist}
1327 \def\name@sep{, \ }
1328 \def\sep@names{\if@notfirst\name@sep\else\@notfirsttrue\fi}
1329 \def\@checkshort#1/#2#3;{%
1330   \@shortformtrue%
1331   \ifx#2\e@list\relax%
1332     \@shortformfalse%
1333   \fi%
1334 }
1335 \def\short@christian#1#2-{%
1336   \if@notfirst -\else\@notfirsttrue\fi%
1337   #1.%
1338   \l@@klist%
1339 }
1340

```

```

1341 \def\@write@christian#1/#2;{#1}
1342
1343 \def\write@christian#1;{%
1344   \@checkshort#1/\e@list;%
1345   \if@shortform\@write@christian#1;\else#1\fi%
1346 }
1347
1348 \def\@write@short#1/#2;{#2}
1349
1350 \def\write@short#1;{%
1351   \@checkshort#1/\e@list;%
1352   \if@shortform%
1353     \@write@short#1;%
1354   \else%
1355     {\notfirstfalse\let\@action\short@christian\l@klist#1-\e@list}%
1356   \fi%
1357 }
1358 \def\@fullname#1, #2; {\hbox{\write@christian#2; #1}}
1359 \def\@surname#1, #2; {#1}
1360 \def\@short#1, #2; {\write@short#2;\ #1}
1361 \def\@noname#1, #2; {}
1362 \def\@normalname#1; {#1}
1363 \def\space@vertical{\space@verticaltrue}
1364 \def\space@horizontal{\space@verticalfalse}
1365 \def\cl@arsol{\immediate\openout\s@lfd=\jobname.sol}
1366 \def\getc@lor#1{%
1367   \if#1\ds@white%
1368     \help@a\z@\global%
1369     \let\cpd@stepcounterPieces\cpd@stepcounterWhite%
1370   \else\if#1\ds@neutral%
1371     \help@a=6\global%
1372     \let\cpd@stepcounterPieces\cpd@stepcounterNeutral%
1373   \else\if#1\ds@black%
1374     \help@a=12\global%
1375     \let\cpd@stepcounterPieces\cpd@stepcounterBlack%
1376   \else\errmessage{invalid color!}%
1377   \fi\fi\fi%
1378   \getpi@ce%
1379 }
1380
1381 \def\get@text#1{\text@tk=#1}\read@square}
1382
1383 \def\getpi@ce#1{\if#1B\relax\else
1384   \if#1\ds@knight\advance\help@a\@ne%
1385   \else\if#1\ds@bishop\advance\help@a\tw@%
1386   \else\if#1\ds@rook\advance\help@a\thr@@%
1387   \else\if#1\ds@queen\advance\help@a\four%
1388   \else\if#1\ds@king\advance\help@a 5%
1389   \else\if#1C%
1390     % An imitator should not count for any color.
1391     \let\cpd@stepcounterPieces\relax
1392     \advance\help@a 145%
1393   \else%
1394     \errmessage{invalid piece!}%

```



```

1395 \fi\fi\fi\fi\fi\fi\fi\fi%
1396 \futurelet\r@tate\chkr@tate%
1397 }
1398
1399 \def\chkr@tate{%
1400 \if\r@tate \ds@upside\advance\help@a 108\let\nextpr@c=\skipr@t\else%
1401 \if\r@tate \ds@left\advance\help@a 36\let\nextpr@c=\skipr@t\else%
1402 \if\r@tate \ds@right\advance\help@a 72\let\nextpr@c=\skipr@t\else%
1403 \let\nextpr@c\piece@job\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi%
1404 }
1405 \def\skipr@t#1{\piece@job}
1406 \def\l@k{\futurelet\whatsnext\parsefi@lds}
1407 \def\parsefi@lds{%
1408 \if\whatsnext\@list%
1409 \let\nextpr@c\relax%
1410 \else
1411 \let\nextpr@c\read@square%
1412 \fi%
1413 \nextpr@c%
1414 }
1415
1416 \def\set@current@square@index#1#2{%
1417 \setcounter{cpd@current@square@index}{#1+\value{cpd@linesmax}*#2}%
1418 }
1419 \def\set@current@square@value#1{%
1420 \expandafter%
1421 \xdef\csname cpd@square@\roman{cpd@current@square@index}\endcsname{#1}%
1422 }
1423 \def\get@current@square@value{%
1424 \setcounter{cpd@current@square@value}%
1425 {\csname cpd@square@\roman{cpd@current@square@index}\endcsname}%
1426 }
1427 \def\set@piece{%
1428 \ifnum\pl@ne=\current@plane%
1429 \cpd@stepcounterPieces%
1430 \set@current@square@index\lin@\r@w%
1431 \get@current@square@value%
1432 \ifthenelse{\value{cpd@current@square@value}=\m@ne}
1433 {\set@current@square@value{\the\help@a}}%
1434 {\ifthenelse{\value{cpd@current@square@value}=144}%
1435 {\set@current@square@value{\the\help@a+18}}%
1436 {\errmessage{Trying to set a piece to an occupied square}}}%
1437 \fi%
1438 \l@k%
1439 }
1440 \def\set@nofield, {%
1441 \ifnum\pl@ne=\current@plane%
1442 \set@current@square@index\lin@\r@w%
1443 \get@current@square@value%
1444 \ifthenelse{\value{cpd@current@square@value}=\m@ne}%
1445 {}% This is an empty white square, nothing to do
1446 {\ifthenelse{\value{cpd@current@square@value}=144}%
1447 {\set@current@square@value{\m@ne}}%
1448 {\errmessage{Trying to set a piece to an occupied square}}}%

```

```

1449 \fi%
1450 \l@@klist%
1451 }
1452 \def\set@frame, {%
1453 \ifnum\pl@ne=\current@plane%
1454 \vGrid{\the\lin@}{\the\r@w}\@ne%
1455 \hGrid{\the\lin@}{\the\r@w}\@ne%
1456 \advance\lin@\@ne%
1457 \vGrid{\the\lin@}{\the\r@w}\@ne%
1458 \advance\lin@\m@ne\advance\r@w\@ne%
1459 \hGrid{\the\lin@}{\the\r@w}\@ne%
1460 \fi%
1461 \l@@klist%
1462 }
1463 \def\e@list{\relax}
1464 \def\l@@klist{\futurelet\nextlist\ch@cklst}
1465 \def\ch@cklst{%
1466 \ifx\nextlist\e@list%
1467 \let\nextpr@c=\relax%
1468 \else%
1469 \let\nextpr@c=@action%
1470 \fi%
1471 \nextpr@c%
1472 }
1473 \def\p@rsepieces#1, {\getc@lor#1\e@list\l@@klist}
1474 \def\p@rsetext#1, {\get@text#1\e@list\l@@klist}
1475 \def\set@text{%
1476 \ifnum\pl@ne=\current@plane%
1477 \raise\r@w\sq@width\hbox to \z@{%
1478 \hskip\lin@\sq@width%
1479 \vbox to \sq@width{\vss%
1480 \hbox to \sq@width{%
1481 \hss%
1482 {\the\text@tk}%
1483 \hss%
1484 }\vss}%
1485 \hss%
1486 }%
1487 \fi%
1488 \l@@klist%
1489 }
1490 \def\p@rseauthor#1; {\sh@wauthor#1;\l@@klist}
1491 \def\read@square#1#2{%
1492 \lin@=#1\advance\lin@ by -'a\relax%
1493 \r@w=#2\advance\r@w by \m@ne%
1494 \read@plane%
1495 }
1496 \def\read@plane@normal{\plane@job}
1497
1498 \def\read@plane@stereo{\futurelet\plane@char\get@plane@stereo}
1499
1500 \def\get@plane@stereo{%
1501 \if\plane@char A%
1502 \pl@ne=\@ne\advance\r@w-\tw@\advance\lin@-\tw@%

```

```

1503     \let\@plane@job=\skip@plane%
1504 \else\if\plane@char B%
1505     \pl@ne=\tw@\advance\r@w-\tw@\advance\lin@-\tw@%
1506     \let\@plane@job=\skip@plane%
1507 \else\if\plane@char C%
1508     \pl@ne=\thr@@\advance\r@w-\tw@\advance\lin@-\tw@%
1509     \let\@plane@job=\skip@plane%
1510 \else\if\plane@char D%
1511     \pl@ne=\four\advance\r@w-\tw@\advance\lin@-\tw@%
1512     \let\@plane@job=\skip@plane%
1513 \else%
1514     \pl@ne=\z@\let\@plane@job=\plane@job%
1515 \fi\fi\fi\fi%
1516 \@plane@job%
1517 }
1518
1519 \def\skip@plane#1{\plane@job}
1520
1521 \def\read@plane@space#1{\pl@ne=#1\advance\pl@ne by -'A\relax\plane@job}
1522 \def\@vGrid#1#2#3{%
1523     \raise#2\sq@width\hbox to \z@{%
1524         \hskip#1\sq@width\hskip-.5\grid@width%
1525         \vrule height#3\sq@width width\grid@width\hss%
1526     }%
1527 }
1528
1529 \def\@hGrid#1#2#3{%
1530     \raise#2\sq@width\hbox to \z@{%
1531         \hskip#1\sq@width%
1532         \vrule width#3\sq@width height .5\grid@width depth%
1533         .5\grid@width\hss%
1534     }%
1535 }
1536 \def\@selGrid#1#2, {%
1537     \ifnum\pl@ne=\current@plane%
1538         \if#1h%
1539             \@hGrid#2%
1540         \else\if#1v%
1541             \@vGrid#2%
1542         \else%
1543             \errmessage{Wrong GridSelector #1}%
1544         \fi\fi%
1545     \fi%
1546     \l@oklist%
1547 }
1548 \def\@stdgrid{%
1549     \setbox\plane@box=\vbox{\hbox{%
1550         \help@a=\tw@%
1551         \loop%
1552             \ifnum\help@a<\lines@max%
1553                 \@vGrid{\the\help@a}{\the\rows@max}%
1554                 \advance\help@a\tw@%
1555             \repeat%
1556         \help@a=\tw@%

```

```

1557     \loop%
1558         \ifnum\help@a<\rows@max%
1559             \@hGrid{0}{\the\help@a}{\the\lines@max}%
1560             \advance\help@a\tw@%
1561         \repeat%
1562     \box\plane@box
1563 }}%
1564 }
1565 \def\ds@xlabel#1{%
1566     \label@tk={#1}\@labeltrue%
1567 }
1568
1569 \def\@set@label#1;{\ifds@label\label{#1}\fi}
1570 \def\@init@vars{%
1571     \global\s@lufalse
1572     \setboolean{cpd@checkPieceCounts}{false}%
1573     \setcounter{cpd@defWhitePieces}{\z@}%
1574     \setcounter{cpd@defBlackPieces}{\z@}%
1575     \setcounter{cpd@defNeutralPieces}{\z@}%
1576     \setcounter{cpd@whitePieces}{\z@}%
1577     \setcounter{cpd@blackPieces}{\z@}%
1578     \setcounter{cpd@neutralPieces}{\z@}%
1579     \lin@\z@
1580 }
1581
1582 \def\clear@board{%
1583     % Now the new style
1584     \setcounter{cpd@current@row}{0}%
1585     \whiledo{\value{cpd@current@row}<\value{cpd@rowsmax}}{%
1586         \setcounter{cpd@current@line}{0}%
1587         \whiledo{\value{cpd@current@line}<\value{cpd@linesmax}}{%
1588             \set@current@square@index{\value{cpd@current@line}}{\value{cpd@current@row}}%
1589             \setcounter{cpd@helper}{\the\current@plane+\value{cpd@current@line}+\value{cpd@current@row}}%
1590             \ifthenelse{\isodd{\value{cpd@helper}}}{%
1591                 {\set@current@square@value{-1}}%
1592                 {\set@current@square@value{144}}%
1593             \addtocounter{cpd@current@line}{\@ne}%
1594         }%
1595         \addtocounter{cpd@current@row}{\@ne}%
1596     }%
1597 }
1598
1599 \def\put@row#1{%
1600     \lin@\z@%
1601     \help@b=#1%
1602     \advance\help@b\brd@ff%
1603     \hbox{%
1604         \if@stereo%
1605             \ifnum\current@plane>\z@%
1606                 \ifnum\@rows=12%
1607                     \llap{\raise .5\sq@width\hbox{\boardfont c6\ }}%
1608                 \fi%
1609             \fi%
1610         \fi%

```

```

1611     \hbox to \z@\vbox to \sq@width{}%
1612     \set@current@square@index{\lin@}{#1}%
1613     \loop%
1614         \get@current@square@value%
1615         \ifthenelse\value{cpd@current@square@value}=\m@ne}%
1616             {\wF}%
1617             {\char\value{cpd@current@square@value}}%
1618             % \ifnum\count\help@b=\m@ne\wF%
1619             % \else\char\count\help@b\fi%
1620             \advance\lin@\@ne%
1621             \addtocounter{cpd@current@square@index}{1}%
1622             % \advance\help@b\@ne%
1623             \ifnum\lin@<\lines@max\repeat%
1624     }%
1625 }
1626 \def\put@line#1{%
1627     \lin@\z@%
1628     \help@b=#1%
1629     \advance\help@b\brd@ff%
1630     \hbox{%
1631         \if@stereo%
1632             \ifnum\current@plane>\z@%
1633                 \ifnum\@rows=12%
1634                     \llap{\raise .5\sq@width\hbox{\boardfont c6\ }}%
1635                 \fi%
1636             \fi%
1637         \fi%
1638         \hbox to \z@\vbox to \sq@width{}%
1639         \loop%
1640             \ifnum\count\help@b=\m@ne\wF%
1641             \else\char\count\help@b\fi%
1642             \advance\lin@\@ne\advance\help@b\@ne%
1643             \ifnum\lin@<\lines@max\repeat%
1644     }%
1645 }
1646 \def\@parseTokenlist#1#2{\expandafter\l@klist\the#1#2 \e@list}
1647 \def\@addToPlane#1{%
1648     \setbox\plane@box=\vbox{\hbox{%
1649         \@parseTokenlist#1,%
1650         \box\plane@box%
1651     }}%
1652 }
1653 \def\put@plane{%
1654     % We might want gridchess
1655     \if@stdgrid%
1656         \@stdgrid%
1657     \fi%
1658     % Let us first set the fieldframes
1659     \if@fieldframe%
1660         \let\@action\read@square%
1661         \let\plane@job\set@frame%
1662         \@addToPlane\fieldframe@tk%
1663     \fi%
1664     % Now we set text to all squares which are given using \fieldtext

```

```

1665 \if@fieldtext%
1666     \let\@action\p@rsettext%
1667     \let\plane@job\set@text%
1668     \@addToPlane\fieldtext@tk%
1669 \fi%
1670 % Then we should add the gridlines
1671 \if@gridlines%
1672     \let\@action\read@plane%
1673     \let\plane@job\@selGrid%
1674     \@addToPlane\gridlines@tk%
1675 \else%
1676     \if@stereo%
1677         \stereo@center%
1678     \fi%
1679 \fi%
1680 % Now we should clear the board
1681 \clear@board%
1682 % Let us now parse the list of pieces
1683 \if@pieces%
1684     \let\@action\p@rsepieces%
1685     \let\piece@job\l@k\let\plane@job\set@piece%
1686     \@parseTokenlist\pieces@tk,%
1687 \fi%
1688 % Now we clear all fields, which are given using \nofields
1689 \if@nofields%
1690     \let\@action\read@square%
1691     \let\plane@job\set@nofield%
1692     \@parseTokenlist\nofields@tk,%
1693 \fi%
1694 % Now we can put the pieces to the board
1695 \global\setbox\plane@box=\hbox{%
1696     \vbox{\rlap{\box\plane@box}}}%
1697 \vbox{%
1698     \chessfont%
1699     \baselineskip=\z@\lineskip=\z@%
1700     \@rows=\rows@max%
1701     % \multiply\@rows by \lines@max%
1702     \loop%
1703         % \advance\@rows -\lines@max%
1704         % \put@line\@rows%
1705         % Remove \put@line in future versions
1706         \advance\@rows \m@ne%
1707         \put@row\@rows%
1708     \ifnum\@rows>\z@\repeat%
1709     }%
1710 }%
1711 }
1712 \def\put@sqs@normal{%
1713     \put@plane%
1714     \setbox\sq@box=\hbox{%
1715         \inner@henbox{\box\plane@box}%
1716     }%
1717 }
1718 \def\put@sqs@stereof%

```

```

1719 \setbox\sq@box=\hbox{\hfil\vbox{
1720   \current@plane=5%
1721   \vskip\v@space@dist%
1722   \loop%
1723     \advance\current@plane\m@ne%
1724     \ifnum\current@plane=\z@%
1725       \lines@max=\@ight%
1726       \rows@max=\@ight%
1727     \else%
1728       \lines@max=\f@ur%
1729       \rows@max=\f@ur%
1730     \fi%
1731     % Now we should clear the board
1732     \begingroup% We need this for inner loops!
1733     \clear@board%
1734     \put@plane%
1735   \endgroup%
1736   \hbox to \bd@width{%
1737     \hfil%
1738     \inner@henbox{\box\plane@box}%
1739     \ifcase\current@plane\or%
1740       \rlap{\boardfont\ A}\or%
1741       \rlap{\boardfont\ B}\or%
1742       \rlap{\boardfont\ C}\or%
1743       \rlap{\boardfont\ D}%
1744     \fi%
1745     \hfil%
1746   }%
1747   \vskip\v@space@dist%
1748   \ifnum\z@<\current@plane\repeat%
1749 } \hfil}%
1750 }
1751
1752 \def\stereo@center{%
1753   \ifnum\current@plane=\z@%
1754     \setbox\plane@box=\vbox{\hbox{
1755       \@hGrid\tw@tw@\f@ur\@hGrid\tw@ 6\f@ur%
1756       \@vGrid\tw@tw@\f@ur\@vGrid6\tw@\f@ur%
1757     }\plane@box%
1758   }}%
1759 \fi%
1760 }
1761 \def\put@sqs@space@vertical{%
1762   \setbox\sq@box=\hbox{\hfil\vbox{
1763     \current@plane=\planes@max%
1764     \vskip\v@space@dist%
1765     \loop%
1766       \advance\current@plane\m@ne%
1767       % Now we should clear the board
1768       \begingroup% We use inner loops!
1769       \clear@board%
1770       \put@plane%
1771       \hbox to \bd@width{%
1772         \inner@henbox{\box\plane@box}%

```

```

1773         \advance\current@plane'A%
1774         \rlap{{\boardfont\ \char\current@plane}}}%
1775     }%
1776     \endgroup%
1777     \vskip\v@space@dist%
1778     \ifnum\z@<\current@plane\repeat%
1779 } \hfil}%
1780 }
1781
1782 \def\put@sqs@space@horizontal{%
1783     \setbox\sq@box=\hbox{%
1784         \current@plane=\z@%
1785         \hskip\h@space@dist%
1786         \loop%
1787             % Now we should clear the board
1788             \begingroup% We use inner loops!
1789             \clear@board%
1790             \put@plane%
1791             \hbox to \bd@width{%
1792                 \inner@hbox{\box\plane@box}%
1793                 \advance\current@plane'A%
1794                 \rlap{{\boardfont\ \char\current@plane}}}%
1795             }%
1796             \endgroup%
1797             \hskip\h@space@dist%
1798             \advance\current@plane@one%
1799     \ifnum\planes@max>\current@plane%
1800     \repeat%
1801 }%
1802 }
1803
1804 \def\put@sqs@space{%
1805     \ifspace@vertical%
1806         \put@sqs@space@vertical%
1807     \else%
1808         \put@sqs@space@horizontal%
1809     \fi%
1810 }
1811 \def\@inner@vframe{%
1812     \if@vframe%
1813         \vrule width \inner@frame%
1814     \else%
1815         \hskip\inner@frame%
1816     \fi%
1817 }
1818
1819 \def\@inner@hframe{%
1820     \if@hframe%
1821         \hrule height \inner@frame%
1822     \else%
1823         \vskip\inner@frame%
1824     \fi%
1825 }
1826 \def\inner@v@frame@rule{%

```



```

1827 \if@stereo%
1828 \@inner@vframe%
1829 \else\if@space%
1830 \@inner@vframe%
1831 \else\if@leaveOuter%
1832 \vrule width \inner@frame%
1833 \else%
1834 \@inner@vframe%
1835 \fi\fi\fi%
1836 }
1837
1838 \def\inner@h@frame@rule{%
1839 \if@stereo%
1840 \@inner@hframe%
1841 \else\if@space%
1842 \@inner@hframe%
1843 \else\if@leaveOuter%
1844 \hrule height \inner@frame%
1845 \else%
1846 \@inner@hframe%
1847 \fi\fi\fi%
1848 }
1849
1850 \def\inner@h@enbox#1{%
1851 \hbox{%
1852 \inner@v@frame@rule%
1853 \vbox{\inner@h@frame@rule#1\inner@h@frame@rule}%
1854 \inner@v@frame@rule%
1855 }%
1856 }
1857 \def\@outer@vrule{\vrule width \outer@frame}
1858
1859 \def\@outer@hrule{\hrule height \outer@frame}
1860 \def\outer@v@frame@rule{%
1861 \if@stereo%
1862 \@outer@vrule%
1863 \else\if@space%
1864 \@outer@vrule%
1865 \else\if@leaveOuter%
1866 \if@vframe\@outer@vrule\else\hskip\outer@frame\fi%
1867 \else%
1868 \@outer@vrule%
1869 \fi\fi\fi%
1870 }
1871
1872 \def\outer@h@frame@rule{%
1873 \if@stereo%
1874 \@outer@hrule%
1875 \else\if@space%
1876 \@outer@hrule%
1877 \else\if@leaveOuter%
1878 \if@hframe\@outer@hrule\else\vskip\outer@frame\fi%
1879 \else%
1880 \@outer@hrule%

```

```

1881 \fi\fi\fi%
1882 }
1883
1884 \def\outer@henbox#1{%
1885 \outer@h@frame@rule%
1886 \hbox{%
1887 \outer@v@frame@rule%
1888 \ifspace@vertical%
1889 \hskip\h@frame@dist%
1890 \fi%
1891 \vbox{%
1892 \ifspace@vertical%
1893 \vskip\v@frame@dist%
1894 \else%
1895 \vskip\v@space@dist%
1896 \fi%
1897 #1%
1898 \ifspace@vertical%
1899 \vskip\v@frame@dist%
1900 \else%
1901 \vskip\v@space@dist%
1902 \fi%
1903 }%
1904 \ifspace@vertical%
1905 \hskip\h@frame@dist%
1906 \fi%
1907 \outer@v@frame@rule%
1908 }%
1909 \outer@h@frame@rule%
1910 }
1911 \def\ch@fig#1{%
1912 \ifvmode\noindent\fi%
1913 \hbox{\chtextfont\lower.3\fontdimen\tw@\chtextfont\hbox{\char#1}}%
1914 }
1915 \def@dia@index{%
1916 \@ifundefined{newindex}%
1917 {\errmessage{You should add documentstyle-option 'index'}}{}%
1918 }
1919
1920 \def\showlabel#1{%
1921 \if@develop%
1922 \raise1ex\hbox{\labelfont#1}\penalty\exhyphenpenalty%
1923 \fi%
1924 }
1925
1926 \def@aidxitem#1, #2, #3{%
1927 \par\medskip#1, \write@christian#2; \dotfill #3%
1928 }
1929
1930 \def\dia@index#1\@sep#2[#3]{\index[#3]{#2/showlabel{#1}}}
1931
1932 \def\parse@aindex#1; {%
1933 \expandafter\dia@index\the\label@tk\@sep#1[author]\l@klist%
1934 }

```

```

1935
1936 \def\@aindex{%
1937   \if@aindex%
1938     \ifnormal@names%
1939       \errmessage{Cannot create index entries with normalnames}%
1940     \else\ifauth@r%
1941       \let\@action=\parse@aindex\@parseTokenlist\aut@tk;%
1942     \fi\fi%
1943   \fi%
1944 }
1945
1946 \def\x@sindex#1\@sep{\expandafter\dia@index\the\label@tk\@sep#1[source]}
1947
1948 \def\@sindex{%
1949   \if@sindex\if@source%
1950     \expandafter\x@sindex\the\source@tk\@sep%
1951   \fi\fi%
1952 }
1953
1954 \def\parse@tindex#1, {%
1955   \expandafter\dia@index\the\label@tk\@sep#1[theme]\l@tklist%
1956 }
1957
1958 \def\@tindex{%
1959   \if@tindex\if@theme%
1960     \let\@action=\parse@tindex\@parseTokenlist\theme@tk,%
1961   \fi\fi%
1962 }
1963 \def\@setPieceColor#1#2#3{%
1964   \gdef\ds@white{#1}\gdef\ds@black{#2}\gdef\ds@neutral{#3}%
1965 }
1966
1967 \def\@setPieceSpec#1#2#3#4#5#6{%
1968   \gdef\ds@king{#1}\gdef\ds@queen{#2}\gdef\ds@rook{#3}%
1969   \gdef\ds@bishop{#4}\gdef\ds@knight{#5}\gdef\ds@pawn{#6}%
1970 }
1971
1972 \def\@setPieceRotation#1#2#3{%
1973   \gdef\ds@left{#1}\gdef\ds@right{#2}\gdef\ds@upside-down{#3}%
1974 }
1975 \def\loop@rotation{%
1976   \bgroup%
1977     \n@cnt\z@%
1978     \help@a\z@%
1979     \loop%
1980     \ifcase\n@cnt%
1981       \def\@theRotation{}%
1982     \or%
1983       \def\@theRotation{\ds@left}%
1984     \or%
1985       \def\@theRotation{\ds@right}%
1986     \or%
1987       \def\@theRotation{\ds@upside-down}%
1988     \fi%

```

```

1989     \loop@color%
1990     \advance\n@cnt\@ne%
1991     \advance\help@a by 36\relax%
1992     \ifnum\n@cnt<\f@ur\repeat%
1993 \egroup%
1994 }
1995
1996 \def\loop@color{%
1997   \bgroup%
1998   \w@cnt\z@%
1999   \loop%
2000     \ifcase\w@cnt%
2001       \def\@theColor{\ds@white}%
2002     \or%
2003       \def\@theColor{\ds@neutral}%
2004     \or%
2005       \def\@theColor{\ds@black}%
2006     \fi%
2007     \loop@piece%
2008     \advance\w@cnt\@ne%
2009     \advance\help@a by 6%
2010     \ifnum\w@cnt<\thr@@\repeat%
2011 \egroup%
2012 }
2013
2014 \def\loop@piece{%
2015   \bgroup%
2016   \b@cnt\z@%
2017   \loop%
2018     \ifcase\b@cnt%
2019       \def\@thePiece{\ds@pawn}%
2020     \or%
2021       \def\@thePiece{\ds@knight}%
2022     \or%
2023       \def\@thePiece{\ds@bishop}%
2024     \or%
2025       \def\@thePiece{\ds@rook}%
2026     \or%
2027       \def\@thePiece{\ds@queen}%
2028     \or%
2029       \def\@thePiece{\ds@king}%
2030     \fi%
2031     \expandafter\xdef\csname%
2032     \@theColor\@thePiece\@theRotation\endcsname{%
2033       \noexpand\ch@fig{\the\help@a}%
2034     }
2035     \advance\b@cnt\@ne%
2036     \advance\help@a by \@ne%
2037     \ifnum\b@cnt<6\repeat%
2038 \egroup%
2039 }
2040 \elchfont\@f@selch
2041
2042 \defaultelchfont%

```

```

2043 \diagnum{\@ne}
2044 %% \figcnttrue
2045 \setboolean{piececounter}{true}
2046 \def\@dianame{\@fullname}
2047 \def\@solname{\@fullname}
2048 \space@verticaltrue
2049 \diagnumbering{arabic}
2050 \def\write@month{\@arabic}%
2051 \diagleft
2052 \cl@arsol
2053 \let\orig@author=\author
2054 \let\orig@day=\day
2055 \let\orig@month=\month
2056 \let\orig@year=\year
2057 \let\orig@label=\label
2058 \DefinePieces{wsn}{KDTLSB}{LRU}
2059 \newdimen\normalboardwidth
2060 \def\setboardwidth{%
2061   \normalboardwidth=\@ight\fontdimen\tw@\chessfont%
2062   \advance\normalboardwidth\tw@\inner@frame%
2063   \advance\normalboardwidth\tw@\h@frame@dist%
2064   \advance\normalboardwidth\tw@\outer@frame%
2065 }
2066
2067 \setboardwidth
2068
2069 </style>

```

Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols	<code>\@aindexfalse</code> 205	<code>\@correctionfalse</code>
<code>\@0</code> 548–550	<code>\@aindextrue</code> 778	. . . . . 156, 1129
<code>\@action</code> 880,	<code>\@awardfalse</code> . 153, 1128	<code>\@correctiontrue</code> .
894, 1026,	<code>\@awardtrue</code> .. 616, 1109	. . . . . 628, 1112
1057, 1059,	<code>\@checkshort</code>	<code>\@currentlabel</code> . . .
1073, 1075,	. 1329, 1344, 1351	. . . . . 281, 475, 565
1087, 1132,	<code>\@cityfalse</code> .. 144, 1126	<code>\@datefalse</code> 147
1147, 1195,	<code>\@citytrue</code> .. 576, 1099	<code>\@datetrue</code>
1204, 1264,	<code>\@cnt@box</code>	588, 592, 600, 1324
1355, 1469,	. 75, 425, 435, 440	<code>\@dayfalse</code> .. 148, 1127
1660, 1666,	<code>\@cnt@wd</code> .. 76, 435, 436	<code>\@daytrue</code> . . . 588, 1102
1672, 1684,	<code>\@commentfalse</code> 163, 1130	<code>\@dedicationfalse</code>
1690, 1941, 1960	<code>\@commenttrue</code> 723, 1117	. . . . . 157, 1129
<code>\@addToPlane</code> . 1647,	<code>\@computerfalse</code> .. 161	<code>\@dedicationtrue</code> .
1662, 1668, 1674	<code>\@computertrue</code> . . . 711	. . . . . 632, 1113
<code>\@afterfalse</code> . 154, 1129	<code>\@condition</code> .. 693, 695	<code>\@developfalse</code> . . . 184
<code>\@aftertrue</code> .. 624, 1110	<code>\@conditionfalse</code> . 175	<code>\@developtrue</code> 759
<code>\@aidxitem</code> .. 793, 1926	<code>\@conditiontrue</code> .. 696	<code>\@dia@after</code> .. 840, 900
<code>\@aindex</code> 277, 471, 1936		<code>\@dia@authors</code> 838, <u>871</u>

\@dia@award .. 845, 973	\@figurine@pieces	\@notfirstfalse ..
\@dia@city .. 839, 890	..... 1178, 1262	879, 893, 1145,
\@dia@condition ..	\@figurine@remarks	1194, 1203, 1355
.. 855, 1012, 1067	..... 1182, 1287	\@notfirsttrue 886,
\@dia@correction .	\@figurine@source	1188, 1328, 1336
..... 843, 951	..... 1174, 1219	\@numberfalse 141, 1126
\@dia@date	\@figurine@stip ..	\@numbertrue . 565, 1097
916, 935, 944, 966	..... 1179, 1269	\@outer@hrule
\@dia@dedic .. 846, 982	\@figurine@tournament	.. 1859, 1874,
\@dia@fidealbum 847, 993	..... 1175, 1249	1876, 1878, 1880
\@dia@index	\@figurine@twins .	\@outer@vrule
776, 782, 788, 1915	..... 1180, 1277	.. 1857, 1862,
\@dia@number . 837, <u>868</u>	\@figurine@version	1864, 1866, 1868
\@dia@remark . 860, 1083	..... 1173, 1215	\@pagesfalse . 151, 1128
\@dia@solution ...	\@fselch 26, 2040	\@pagetrue .. 608, 1107
..... 1134, 1291	\@fullname	\@parseNeutralCount
\@dia@source . 842, 929	.. 1358, 2046, 2047	..... 660, 664
\@dia@stipulation	\@gridlinesfalse . 167	\@parseTokenlist .
.... 31, 852, 1002	\@gridlinestrue .. 681	..... 881,
\@dia@tournament .	\@hGrid	894, 1061, 1077,
..... 844, 960	1459, 1529,	1088, 1148,
\@dia@twins	1539, 1559, 1755	1196, 1204,
.. 858, 1009, 1051	\@hframefalse	1266, 1646,
\@dia@version 841, 908	.... 731, 735, 743	1649, 1686,
\@dia@writename ..	\@hframetrue	1692, 1941, 1960
..... 880, 1325	\@ifundefined ... 1916	\@parseWhiteAndBlackCount
\@diagram	\@ight . 22, 211, 291,	..... 647, 650
<u>209</u>	292, 339, 344,	\@pieces . 642, 648, 667
\@dianame 540,	1725, 1726, 2061	\@piecesfalse 164
1325, 1326, 2046	\@inner@hframe 1819,	\@piecestrue 668
\@fidealbumfalse . 158	1840, 1842, 1846	\@pkelch
\@fidealbumtrue .. 636	\@inner@vframe 1811,	25
\@fieldframefalse 168	1828, 1830, 1834	\@plane@job .. 1503,
\@fieldframetrue . 685	\@issuefalse . 150, 1128	1506, 1509,
\@fieldtextfalse . 165	\@issuetrue .. 604, 1106	1512, 1514, 1516
\@fieldtexttrue .. 672	\@judgementfalse .	\@remarkfalse 176
\@figurine@after .	..... 162, 1130	\@remarktrue 707
..... 1171, 1209	\@judgementtrue ..	\@rows .. 191, 1606,
\@figurine@author	..... 727, 1118	1633, 1700,
..... 1169, 1192	\@labelfalse . 140, 1126	1701, 1703,
\@figurine@award .	\@labeltrue . 1096, 1566	1704, 1706-1708
..... 1176, 1253	\@leaveOuterfalse 735	\@selGrid .. 1536, 1673
\@figurine@city ..	\@leaveOutertrue .. 38	\@sep ... 1930, 1933,
..... 1170, 1201	\@leftfalse 1042	1946, 1950, 1955
\@figurine@computer	\@lefttrue .. 1025,	\@set@label
..... 1183, 1281	1034, 1044,	... 284, 479, 1569
\@figurine@conditions	1054, 1070, 1086	\@setPieceColor ..
..... 1181, 1273	\@lines .....	..... 797, 1963
\@figurine@correction	190	\@setPieceRotation
..... 1172, 1211	\@months 596, 1324	..... 797, 1972
\@figurine@dedic .	\@nofieldsfalse .. 166	\@setPieceSpec 797, 1967
..... 1177, 1257	\@nofieldstrue ... 676	\@short
\@figurine@number	\@noname	1360
..... 1168, 1185	\@normalname 1362	\@shortformfalse 1332
		\@shortformtrue . 1330
		\@show@album . 991, 995

<code>\@show@city</code> .. 886, 888	<code>\@tournamentfalse</code>	<code>\AtBeginDocument</code> .
<code>\@show@computertrue</code> 173	..... 152, 1128	..... 14–16
<code>\@show@figurine</code> ..	<code>\@tournamenttrue</code> .	<code>\aut@tk</code> .. 109, 572,
..... 482, 1166	..... 612, 1108	876, 881, 1098,
<code>\@sindex</code> 278, 472, 1948	<code>\@twins</code> 700, 702	1143, 1148,
<code>\@sindexfalse</code> 206	<code>\@twinsfalse</code> . 159, 1130	1196, 1298, 1941
<code>\@sindextrue</code> 784	<code>\@twinskip</code>	<code>\auth@rfalse</code> . 143, 1126
<code>\@sirnname</code> 1359	. 1000, 1008, 1011	<code>\auth@rtrue</code> .. 572, 1098
<code>\@sol@writename</code> ..	<code>\@twinstrue</code> .. 703, 1115	<code>\author</code> 4, 249,
..... 1147, 1326	<code>\@typisfalse</code> 177	264, 450, 458, 2053
<code>\@solafterdiagramfalse</code>	<code>\@typistrue</code> 258	<code>\authorfont</code> <u>489</u> , 869,
..... 33	<code>\@vGrid</code> 1454,	874, 1185, 1194
<code>\@solafterdiagramtrue</code>	1457, 1522,	<code>\authorindex</code> .. 13, 793
..... 34	1541, 1553, 1756	<code>\award</code> 5, 615
<code>\@solname</code> ... 541, 2047	<code>\@versionfalse</code> 155, 1129	<code>\award@tk</code>
<code>\@sourcefalse</code> 146, 1127	<code>\@versiontrue</code> 620, 1111	120, 616, 976,
<code>\@sourcenrfalse</code> ..	<code>\@vframefalse</code>	1109, 1254, 1309
..... 145, 1127	.... 731, 735, 739	<code>\awardfont</code>
<code>\@sourcetrue</code> 580, 1100	<code>\@vframetrue</code> 36	<u>489</u> , 963, 976,
<code>\@sourcefalse</code> . 584, 1101	<code>\@widediasfalse</code> 178, 772	1250, 1254, 1258
<code>\@spacediagram</code> 236, 239	<code>\@widediastrue</code> ... 771	
<code>\@spacefalse</code> 204	<code>\@write@christian</code>	B
<code>\@spacetrue</code> 235	..... 1341, 1345	<code>\b@cnt</code> ... 55, 2016,
<code>\@specialfalse</code> ... 142	<code>\@write@short</code> 1348, 1353	2018, 2035, 2037
<code>\@specialtrue</code> 564	<code>\@write@sol</code> . 1290, 1292	<code>\baselineskip</code> 384, 1699
<code>\@start@diagram</code> ..	<code>\@yearfalse</code> .. 149, 1127	<code>\bd@width</code> 89,
224, 231, 245, 247	<code>\@yeartrue</code> .. 600, 1105	291, 302, 317–
<code>\@stdgrid</code> .. 1548, 1656		319, 324, 325,
<code>\@stdgridfalse</code> ... 169	<code>\sq</code> 391, 428,	331, 338, 346,
<code>\@stdgridtrue</code> 747	431, 552, 805,	1736, 1771, 1791
<code>\@stereofalse</code> 203	886, 933, 935–	<code>\below@newline</code> 188,
<code>\@stereotrue</code> 228	937, 966, 1000,	862, 1008, 1011,
<code>\@stip@box</code> 77	1197, 1205,	1015, 1019,
<code>\@stipulationfalse</code> 174	1209, 1212,	1025, 1033,
<code>\@stipulationtrue</code> 689	1216, 1222,	1038, 1047,
<code>\@test@box</code> 80, 1031, 1032	1225, 1250,	1063, 1079, 1090
<code>\@test@dimen</code> 81	1254, 1258,	<code>\board@width</code> ... 88,
<code>\@textproblemfalse</code> . 30	1270, 1274,	292, 303–305,
<code>\@textproblemtrue</code> . 31	1278, 1283,	318, 320–322,
<code>\@theColor</code> .. 2001,	1288, 1327,	331–335, 341,
2003, 2005, 2032	1360, 1607,	344, 347–349,
<code>\@thePiece</code>	1634, 1740–	354, 361, 389,
.. 2019, 2021,	1743, 1774, 1794	399, 401, 410, 440
2023, 2025,		<code>\boardfont</code> <u>489</u> , 1607,
2027, 2029, 2032	A	1634, 1740–
<code>\@theRotation</code>	<code>\addtocounter</code>	1743, 1774, 1794
.. 1981, 1983,	. 1593, 1595, 1621	<code>\brd@ff</code> . 84, 1602, 1629
1985, 1987, 2032	<code>\after</code> 623	C
<code>\@themefalse</code> . 160, 1130	<code>\after@tk</code>	<code>\c@board@nr</code> .. 542, 557
<code>\@themetrue</code> .. 719, 1114	121, 624, 903,	<code>\centering</code> .. 386, 559
<code>\@tindex</code> 279, 473, 1958	1110, 1209, 1310	<code>\ch@cklst</code> .. 1464, 1465
<code>\@tindexfalse</code> 207	<code>\any</code> 12, <u>543</u>	<code>\ch@fig</code> 800, 803, 808,
<code>\@tindextrue</code> 790	<code>\arabic</code> 431, 432	811, 814, 817,

820, 823, 826,	1589, 1605,	<code>\diagright</code> 6, 559
829, 832, 835,	1632, 1720,	<code>\dianamestyle</code> . . 6, 540
1260, 1911, 2033	1723, 1724,	<code>\do@dia@job</code> . . 418, 1290
<code>\chessfont</code> 289, 500,	1739, 1748,	<code>\dotfill</code> 1927
503, 512, 515,	1753, 1763,	<code>\ds@author</code> 249, 450, 568
524, 527, 805,	1766, 1773,	<code>\ds@bishop</code> 799, 802,
806, 1698, 2061	1774, 1778,	1385, 1969, 2023
<code>\chkr@tate</code> . 1396, 1399	1784, 1793,	<code>\ds@black</code>
<code>\chtextfont</code>	1794, 1798, 1799	799, 802, 806,
501, 504, 513,		813, 822, 831,
516, 525, 528, 1913		1373, 1964, 2005
<code>\city</code> 5, 575	D	<code>\ds@day</code> . . 250, 451, 587
<code>\city@tk</code>	<code>\day</code> 5, 250,	<code>\ds@king</code> 1388, 1968, 2029
110, 576, 894,	265, 451, 459, 2054	<code>\ds@knight</code>
1099, 1204, 1299	<code>\day@tk</code> 113, 588, 919,	. 1384, 1969, 2021
<code>\cityfont</code> 489 , 893, 1203	1102, 1228, 1302	<code>\ds@label</code> 253, 454, 568
<code>\cl@arsol</code> 770, 1365, 2052	<code>\dedic</code> 5, 750	<code>\ds@labelfalse</code> . . . 569
<code>\clear@board</code>	<code>\dedic@tk</code>	<code>\ds@labeltrue</code> 569
. . 1582, 1681,	124, 632, 985,	<code>\ds@left</code> 1401, 1973, 1983
1733, 1769, 1789	1113, 1258, 1313	<code>\ds@month</code> 251, 452, 591
<code>\Co</code> 710	<code>\dedication</code> . 5, 631, 753	<code>\ds@neutral</code>
<code>\CodelineIndex</code> 6	<code>\dedicfont</code> 489 , 903,	810, 819, 828,
<code>\comment</code> 5, 722	911, 954, 985,	1370, 1964, 2003
<code>\comment@tk</code> 129, 723,	1209, 1212, 1216	<code>\ds@pawn</code> . . . 1969, 2019
1117, 1155, 1317	<code>\defaultelchfont</code> .	<code>\ds@queen</code>
<code>\computer@tk</code> . . 130,	. . . 487, 533 , 2042	. 1387, 1968, 2027
711, 1116, 1316	<code>\DefinePieces</code>	<code>\ds@right</code>
<code>\computerproofedsymbol</code>	. . . . . 12, 796, 2058	. 1402, 1973, 1985
. 7, 171, 428, 1283	<code>\develop</code> 13, 758	<code>\ds@rook</code> 1386, 1968, 2025
<code>\cond</code> 5, 750	<code>\di@nofalse</code> 554	<code>\ds@upsidedown</code> . . .
<code>\condition</code> . 5, 692, 755	<code>\di@notrue</code> 556	. 1400, 1973, 1987
<code>\condition@tk</code> . 138,	<code>\dia@above</code> . . 394, 836	<code>\ds@white</code> 799, 805,
696, 1077, 1274	<code>\dia@below</code> . . 414, 849	807, 816, 825,
<code>\correction</code> 627	<code>\dia@box</code>	1367, 1964, 2001
<code>\correction@tk</code> . . .	74, 381, 417, 1290	<code>\ds@xlabel</code> . . 569, 1565
123, 628, 954,	<code>\dia@index</code> . . 1930,	<code>\ds@year</code> . 252, 453, 599
1112, 1212, 1312	1933, 1946, 1955	
<code>\cpd@checkNeutral</code>	<code>\dia@lineskip</code> . . 86,	E
. 653, 656	384, 506, 518, 530	<code>\e@list</code> . 647, 1132,
<code>\cpd@nextproc</code>	<code>\dia@type</code>	1260, 1331,
655, 658, 660, 662	. 28, 507, 519, 531	1344, 1351,
<code>\cpd@stepcounterBlack</code>	<code>\diagcenter</code> . 6, 559 , 771	1355, 1408,
. 67, 1375	<code>\diagleft</code> . 6, 559 , 2051	1463, 1466,
<code>\cpd@stepcounterNeutral</code>	<code>\diagnum</code> 7, 542, 556, 2043	1473, 1474, 1646
. 68, 1372	<code>\diagnumbering</code> . . .	<code>\elchfont</code> . 23, 487,
<code>\cpd@stepcounterPieces</code>	. . . . . 7, 555, 2049	499, 511, 523, 2040
69, 1369, 1372,	<code>\diagram</code> 209	<code>\EnableCrossrefs</code> . . . 5
1375, 1391, 1429	<code>diagram</code> (environ-	<code>\enddiagram</code> 263, 445, 446
<code>\cpd@stepcounterWhite</code>	ment) 4	<code>\endfigurine</code> 457
. 66, 1369	<code>diagram[]</code> (environ-	<code>\endspacediagram</code> . 446
<code>\current@plane</code> . 52,	ment) 8	<code>\endstereodiagram</code> 445
221, 1428,	<code>\diagramx</code> 7, 14, 498 , 535	environments:
1441, 1453,	<code>\diagramxi</code> 7, 15, 498 , 536	<code>diagram</code> 4
1476, 1537,	<code>\diagramxii</code>	<code>diagram[]</code> 8
	. . 7, 16, 498 , 537	

figurine	10	321, 348, 1163,	\if@fieldframe	168, 1659
spacediagram[] . .	8	1889, 1905, 2063	\if@fieldtext	165, 1665
stereodiagram ..	8	\h@space@dist	\if@first	186
\ExecuteOptions . . .	17	. . . . 101, 326,	\if@gridlines	167, 1671
		327, 329, 332,	\if@hframe	37, 1820, 1878
		334, 1785, 1797	\if@issue	150, 936, 1244
F		\he@dpos . 394, 559–561	\if@judgement	162, 1153
\f@ur 21, 1387, 1511,		\head@width 90, 352,	\if@label	140,
1728, 1729,		354, 385, 400, 409	283, 390, 478, 1139	
1755, 1756, 1992		\help@a	\if@leaveOuter . . .	
\fidealbun	635	1095, 1121,	. . . . 38, 1831,	
\fidealbun@tk		1131, 1260,	1843, 1865, 1877	
. . . . 125, 636, 995		1368, 1371,	\if@left	82,
\fieldframe 11, 684, 751		1374, 1384–	1031, 1037, 1041	
\fieldframe@tk . . .		1388, 1392,	\if@nofields . 166, 1689	
. . . 132, 685, 1662		1400–1402,	\if@notfirst	
\fieldtext 11, 671, 1664		1433, 1435,	. . . . 185, 886,	
\fieldtext@tk		1550, 1552–	1188, 1328, 1336	
. . . 135, 672, 1668		1554, 1556,	\if@number 141, 269, 463	
\figcnttrue	2044	1558–1560,	\if@pages 151, 937, 1245	
\figurine	447	1978, 1991,	\if@pieces	
figurine (environ-		2009, 2033, 2036	. . 164, 1263, 1683	
ment)	10	\help@b	\if@remark	
\fontdimen		1601, 1602,	. . 176, 1084, 1288	
. . 289, 1913, 2061		1618, 1619,	\if@shortform	
\from@month . . . 114,		1622, 1628,	. . . 40, 1345, 1352	
592, 917, 919,		1629, 1640–1642	\if@show@computer 173	
921, 1103,		\hfil 440, 1040, 1719,	\if@sindex . . 206, 1949	
1227, 1229,		1737, 1745,	\if@solafterdiagram	
1236, 1303, 1324		1749, 1762, 1779	. . . . . 33, 861	
\further	<u>543</u>	\horizontalcylinder	\if@source 146, 930,	
\futurelet 653, 1396,		. . . . . 6, 10, 742	965, 1220, 1949	
1406, 1464, 1498			\if@sourcenr	
			. . . 145, 933, 1222	
G		I	\if@space	
\get@current@square@value	\if@after 154, 901, 1209	\if@aindex . . 205, 1937	204, 306, 1829,	
. 1423,		\if@award 153, 974, 1254	1841, 1863, 1875	
1431, 1443, 1614		\if@city 144, 891, 1202	\if@special	142
\get@plane@stereo	\if@comment . . 163, 1155	\if@computer	\if@stdgrid . . 169, 1655	
. 1498, 1500		. . . 161, 428, 1283	\if@stereo . . . 203,	
\get@text . . 1381, 1474	\if@condition	\if@condition	290, 1604, 1631,	
\getc@lor . . 1366, 1473	. . 175, 1068, 1274	. . 175, 1068, 1274	1676, 1827,	
\getpi@ce . . 1378, 1383	\if@correction . . .	\if@correction . . .	1839, 1861, 1873	
\grid@width . . . . .	. . . 156, 952, 1212	. . . 156, 952, 1212	\if@stipulation 174,	
93, 1158, 1524,	\if@date	\if@date	851, 1003, 1270	
1525, 1532, 1533	147, 935, 941, 965	147, 935, 941, 965	\if@textproblem . .	
\gridchess 6, <u>750</u>	\if@day	\if@day . . . . .	. . . . 30, 359, 402	
\gridlines . . . 11, 680	148, 918, 924, 1226	148, 918, 924, 1226	\if@theme . . 160, 1959	
\gridlines@tk	\if@dedication . . .	\if@dedication . . .	\if@tindex . . 207, 1959	
. . . 133, 681, 1674	. . . 157, 983, 1258	. . . 157, 983, 1258	\if@tournament . . .	
H	\if@develop . . . 184,	\if@develop . . . 184,	152, 941, 961, 1250	
\h@frame@dist . . . .	. 390, 1153, 1921	. 390, 1153, 1921	\if@twins 159, 1052, 1278	
. 98, 293, 294,	\if@fidealbun 158, 994	\if@fidealbun 158, 994	\if@typis	177
304, 307, 308,				

<code>\if@version</code>	<code>\isodd</code> 1590	M
. . . 155, 909, 1216	<code>\issue</code> 5, 603	<code>\m@ne</code> 437,
<code>\if@vframe</code> 36, 1812, 1866	<code>\issue@tk</code>	542, 1432, 1444,
<code>\if@widedias</code> . 178, 351	117, 604, 936,	1447, 1458,
<code>\if@year</code> 149, 926, 1224	1106, 1244, 1306	1493, 1615,
<code>\ifauth@r</code> 143, 872,		1618, 1640,
1141, 1193, 1940	J	1706, 1723, 1766
<code>\ifdi@no</code> 45	<code>\jobname</code> 770, 1365	<code>\magic</code> <u>750</u>
<code>\ifds@label</code> .. 208, 1569	<code>\judgement</code> 5, 726	<code>\makeaindex</code> . . . 13, 775
<code>\iffigcnt</code> 47	<code>\judgement@tk</code>	<code>\makesindex</code> . . . 13, 781
<code>\ifimitator</code> 181	. . . . 128, 727,	<code>\maketindex</code> . . . 13, 787
<code>\ifnormal@names</code> 182,	1118, 1153, 1318	<code>\month</code> 5, 251,
875, 1142, 1938		266, 452, 460, 2055
<code>\ifs@lu</code> 183, 1293	L	<code>\months</code> 5, 595
<code>\ifspace@vertical</code>	<code>\l@ck</code> . 1406, 1438, 1685	N
. 42,	<code>\l@cklist</code> 888, 1027,	<code>\n@cnt</code> . . . 56, 1977,
316, 1805, 1888,	1048, 1122,	1980, 1990, 1992
1892, 1898, 1904	1132, 1189,	<code>\n@xt</code> 653, 657
<code>\ifx@cond</code> 180,	1325, 1326,	<code>\name@sep</code> 878,
854, 1010, 1072	1338, 1355,	1146, 1327, 1328
<code>\ifx@twins</code> . . . 179,	1450, 1461,	<code>\nC</code> <u>12</u>
857, 1007, 1056	1464, 1473,	<code>\newcommand</code> . . . 66–
<code>\ignorespaces</code> .. 34,	1474, 1488,	68, 171, 172,
254, 260, 552,	1490, 1546,	489–498, 510, 522
566, 573, 577,	1646, 1933, 1955	<code>\nextlist</code> .. 1464, 1466
581, 585, 589,	<code>\label</code> 7	<code>\nextpr@c</code> . . . 1400–
593, 597, 601,	<code>\label@tk</code> 106, 274,	1403, 1409,
605, 609, 613,	284, 391, 468,	1411, 1413,
617, 621, 625,	479, 1096, 1139,	1467, 1469, 1471
629, 633, 637,	1296, 1566,	<code>\nGh</code> <u>12</u>
669, 673, 677,	1933, 1946, 1955	<code>\nNr</code> <u>11</u>
682, 686, 690,	<code>\labelfont</code> 391, <u>489</u> , 1922	<code>\nocomputer</code> 7, 766
697, 704, 708,	<code>\leftrightharrow</code> .. 544	<code>\nodiagnumbering</code> . 554
712, 716, 720,	<code>\lin@</code> 50, 1430,	<code>\nofields</code>
724, 728, 732,	1442, 1454–	10, 675, 679, 1688
736, 740, 744,	1459, 1478,	<code>\nofields@tk</code>
748, 760, 764, 768	1492, 1502,	. . . 131, 676, 1692
<code>\Imi</code> <u>12</u> , 835	1505, 1508,	<code>\noframe</code> . . . 6, <u>10</u> , 730
<code>\imitatorfalse</code> . . . 181	1511, 1579,	<code>\noinnerframe</code> 6, <u>10</u> , 734
<code>\init@vars</code> 248, 449, 1570	1600, 1612,	<code>\normal@namesfalse</code>
<code>\inner@frame</code> . . . 94,	1620, 1623,	. . . . . 182, 774
302, 303, 319,	1627, 1642, 1643	<code>\normal@nametrue</code> 773
320, 325, 346,	<code>\lines@max</code> . . . 192,	<code>\normalboardwidth</code>
347, 1159,	215, 240, 317,	. 2059, 2061–2064
1813, 1815,	324, 338, 339,	<code>\normalnames</code> 773
1821, 1823,	341, 1552,	<code>\nosquares</code> . . . <u>10</u> , 679
1832, 1844, 2062	1559, 1623,	<code>\notcomputerproofedsymbol</code>
<code>\inner@h@frame@rule</code>	1643, 1701,	. . . . . 7, 172, 428
. 1838, 1853	1703, 1725, 1728	<code>\nowidedias</code> 772
<code>\inner@henbox</code>	<code>\lineskip</code> 1699	<code>\number@tk</code> . . . 108,
. . 1715, 1738,	<code>\loop@color</code> . 1989, 1996	565, 1097, 1140
1772, 1792, 1850	<code>\loop@piece</code> . 2007, 2014	O
<code>\inner@v@frame@rule</code>	<code>\loop@rotation</code> 798, 1975	<code>\O0</code> <u>12</u> , <u>543</u>
. 1826, 1852, 1854	<code>\lra</code> <u>12</u> , <u>543</u>	

\000	12, <u>543</u>	1738, 1754,	\read@square
\OR	424	1757, 1772, 1792	. . . 1381, 1411,
\orig@author		\plane@char	1491, 1660, 1690
. . . 264, 458, 2053		. . . 1498, 1501,	\rem 5, <u>750</u>
\orig@day 265, 459, 2054		1504, 1507, 1510	\remark 5, 706, 756
\orig@label		\plane@job	\remark@tk . . . 139,
. . . 268, 462, 2057		. . . 1496, 1514,	707, 1088, 1288
\orig@month		1519, 1521,	\remfont <u>489</u> ,
. . . 266, 460, 2055		1661, 1667,	1055, 1071,
\orig@year 267, 461, 2056		1673, 1685, 1691	1087, 1274, 1278
\outer@frame 95, 299,		\planes@max 194, 242,	\reversednames 774, 778
300, 305, 313,		333, 1763, 1799	\Rightarrow 552
314, 322, 335,		\put@count . . . 413, 422	\rightarrow 543
349, 1160, 1161,		\put@line	\rla <u>543</u>
1857, 1859,		. . . 1626, 1704, 1705	\rlap . . . 1696, 1740–
1866, 1878, 2064		\put@plane	1743, 1774, 1794
\outer@h@frame@rule		. . . 1653, 1713,	\roman 1421, 1425
. . . 1872, 1885, 1909		1734, 1770, 1790	\rows@max 193, 216,
\outer@h@en@box 405, 1884		\put@row . . . 1599, 1707	241, 1553, 1558,
\outer@v@frame@rule		\put@sqsq	1700, 1726, 1729
. . . 1860, 1887, 1907		222, 229, 243, 369	
			S
P		\put@sqsq@normal . .	\s@lfd 187,
\p@rseauthor 1490		. . . . . 222, 1712	770, 1294, 1365
\p@rseauthor@figurine		\put@sqsq@space 243, 1804	\s@lufalse 1571
. 1187, 1195		\put@sqsq@space@horizontal	\s@lutrue 715
\p@rsecity 888, 894, 1204		. . . . . 1782, 1808	\sC 12
\p@rsepieces		\put@sqsq@space@vertical	\selectelchfont 7, 486
. . . 1264, 1473, 1684		. . . . . 1761, 1806	\sep@names
\p@rsetext . . . 1474, 1666		\put@sqsq@stereo . .	. . . 1325, 1326, 1328
\pages 5, 607		. . . . . 229, 1718	\set 12, <u>543</u>
\pages@tk		\putsol 770	\set@current@square@index
118, 608, 937,			. . . 1416, 1430,
1107, 1245, 1307		R	1442, 1588, 1612
\parse@a@index 1932, 1941		\r@tate 1396, 1400–1402	\set@current@square@value
\parse@params 1094, 1132		\r@w 49, 1430,	. . . . . 1419,
\parse@t@index 1954, 1960		1442, 1454,	1433, 1435,
\parsefi@lds 1406, 1407		1455, 1457–	1447, 1591, 1592
\piece@job . . . 1265,		1459, 1477,	\set@frame . . . 1452, 1661
1403, 1405, 1685		1493, 1502,	\set@nofield 1440, 1691
\piececounter 7		1505, 1508, 1511	\set@piece . . . 1427, 1685
\pieces 4, 639		\ra 12, <u>543</u>	\set@text . . . 1475, 1667
\pieces@tk . . . 134,		\raggedleft 561	\setboardwidth . . .
668, 1266, 1686		\raggedright . . . . .	. . . . . 2060, 2067
\pl@ne 51,		363, 391, 412, 560	\setcounter . . . 217–
220, 1428, 1441,		\read@plane 223, 230,	219, 651, 652,
1453, 1476,		244, 1494, 1672	665, 1417, 1424,
1502, 1505,		\read@plane@normal	1573–1578,
1508, 1511,		. . . . . 223, 1496	1584, 1586, 1589
1514, 1521, 1537		\read@plane@space	\setmonthstyle . . 7, <u>562</u>
\plane@box 104, 1549,		. . . . . 244, 1521	\sGh 12
1562, 1648,		\read@plane@stereo	\sh@wauthor 1490
1650, 1695,		. . . . . 230, 1498	\short@christian .
1696, 1715,			. . . . . 1335, 1355

<code>\show@squares</code>	1260, 1265	<code>\sq@width</code>	..... 91, 289, 291–294, 307, 308, 317, 324, 326, 327, 329, 338, 341, 344, 1032, 1040, 1477– 1480, 1523– 1525, 1530– 1532, 1607, 1611, 1634, 1638	531, 1137, 1162, 1163, 1385, 1502, 1505, 1508, 1511, 1550, 1554, 1556, 1560, 1755, 1756, 1913, 2061–2064	
<code>\showcomputer</code>	.. 7, 762	<code>\ssL</code>	..... 11	<code>\twins</code>	..... 5, 699
<code>\showlabel</code>	.. 1139, 1920	<code>\stdgrid</code>	.... 746, 750	<code>\twins@tk</code>	..... 127, 703, 1061, 1115, 1278, 1315
<code>\showtypis</code>	..... 257	<code>\stepcounter</code>	... 66–68	<code>\typis@tk</code>	... 105, 259
<code>\sim</code>	..... 551	<code>\stereo@center</code>	... ..... 1677, 1752	V	
<code>\skip@plane</code>	..... .. 1503, 1506, 1509, 1512, 1519	<code>\stereodiagram</code>	... 226	<code>\v@frame@dist</code>	.... .. 97, 298, 312, 1162, 1893, 1899
<code>\skipr@t</code>	1400–1402, 1405	<code>stereodiagram</code>	(environment) 8	<code>\v@space@dist</code>	.... .... 100, 296, 310, 1165, 1721, 1747, 1764, 1777, 1895, 1901
<code>\slash</code>	..... 886	<code>\stip</code>	..... 4, <u>750</u>	<code>\value</code>	219, 372, 374, 376, 432, 1417, 1432, 1434, 1444, 1446, 1585, 1587– 1590, 1615, 1617
<code>\sloppy</code>	..... 364	<code>\stipfont</code>	..... 362, 426, <u>489</u> , 1005, 1270, 1288	<code>\version</code>	..... 619
<code>\slshape</code>	..... 490	<code>\stipulation</code>	4, 688, 754	<code>\version@tk</code>	..... 122, 620, 911, 1111, 1216, 1311
<code>\sNr</code>	..... 11	<code>\stipulation@tk</code>	.. .... 137, 365, 689, 1006, 1270	<code>\verticalcylinder</code>	..... 6, 10, 738
<code>\sol</code>	..... 5, <u>750</u>	<code>\swL</code>	..... 11	W	
<code>\sol@tk</code>	107, 715, 863, 1119, 1154, 1319	T		<code>\w@cnt</code>	... 54, 1998, 2000, 2008, 2010
<code>\solafterdiagram</code>	.. 34	<code>\text@tk</code>	136, 1381, 1482	<code>\wC</code>	..... 12
<code>\solhead</code>	1291, 1295, 1320	<code>\textproblem</code>	..... 31	<code>\wF</code>	.. 1616, 1618, 1640
<code>\solnamestyle</code>	.. 6, 541	<code>\thediag</code>	.. 557, 565, 869, 1185, 1297	<code>\wGh</code>	..... 12
<code>\solution</code>	.. 5, 714, 757	<code>\theme@tk</code>	126, 719, 1114, 1314, 1960	<code>\whatsnext</code>	.. 1406, 1408
<code>\source</code>	..... 5, 583	<code>\themeindex</code>	... 13, 795	<code>\whiledo</code>	... 1585, 1587
<code>\source@tk</code>	... 112, 584, 934, 1101, 1223, 1301, 1950	<code>\themes</code>	..... 5, 718	<code>\widedias</code>	..... 6, 771
<code>\sourcefont</code>	..... <u>489</u> , 932, 943, 1221	<code>\thr@</code>	1386, 1508, 2010	<code>\wNr</code>	..... 11
<code>\sourceindex</code>	.. 13, 794	<code>\times</code>	..... 546	<code>\write@christian</code>	.. 1343, 1358, 1927
<code>\sourcetr</code>	..... 5, 579	<code>\to@month</code>	... 115, 923, 1104, 1230, 1231, 1237, 1238, 1304, 1324	<code>\write@month</code>	..... 562, 919, 921, 923, 1229, 1231, 1236, 1238, 2050
<code>\sourcetr@tk</code>	..... 111, 580, 933, 1100, 1222, 1300	<code>\topdist</code>	.... 79, 388	<code>\write@short</code>	1350, 1360
<code>\space@frame</code>	96, 299, 300, 313, 314, 1161	<code>\tourn</code>	..... <u>750</u>		
<code>\space@frame@dist</code>	..... 99, 297, 298, 311, 312, 1164	<code>\tournament</code>	.. 5, 611, 752		
<code>\space@horizontal</code>	1364	<code>\tournament@tk</code>	... 119, 612, 964, 1108, 1250, 1308		
<code>\space@vertical</code>	.. 1363	<code>\tw@</code>	..... 289, 302– 305, 319–322, 325, 335, 346– 349, 397, 530,		
<code>\space@verticalfalse</code>	..... 43, 1364				
<code>\space@verticaltrue</code>	..... 1363, 2048				
<code>\spacediagram</code>	.... 233				
<code>spacediagram[]</code>	(environment) 8				
<code>\spacehorizontal</code>	.. 43				
<code>\spacelayout</code>	.. 10, 553				
<code>\specialdiagnum</code>	5, 563				
<code>\split@param</code>	1125, 1291				
<code>\sq@box</code>	..... 103, 360, 361, 369, 403, 405, 1714, 1719, 1762, 1783				

<code>\write@twins</code>	<code>\x@condtrue</code> 693	Y
.. 1026, 1030,	<code>\x@pieces</code> . . . 641, 644	<code>\year</code> 5, 252,
1059, 1075, 1087	<code>\x@sindex</code> . . 1946, 1950	267, 453, 461, 2056
X	<code>\x@twinsfalse</code> 179, 1017	<code>\year@tk</code>
<code>\x</code> 12, 543	<code>\x@twinstrue</code> 700	116, 600, 926,
<code>\x@condfalse</code> . 180, 1018	<code>\x@write@twin</code>	1105, 1242, 1305
	. 1023, 1057, 1073	

Change History

v0.1	General: First Version 1	v1.5.2	General: Added some percent signs at line ends in <code>@start@diagram</code> and <code>endiagram</code> to avoid accidentally added spaces. 1
v0.2	General: Added the documentation for the <i>information collecting</i> macros which may be used inside a environment. . . . 1	v1.5.3	General: Changed switch, which is used to decide, whether information about computer proof is displayed to use standard boolean syntax. Symbols about computer proof are now created by standard commands and may therefore be changed by users. 1
v0.3	General: Added list of commands which should not be indexed. . . 1	v1.5.4	General: Defined 2 different versions of <code>@writename</code> command, to be able to change it in other stylefiles for the part over the diagram without influencing the one used for the solution. Added commands to set white, black and neutral Circles within text. 1
v0.4	General: Added most missing user documentation. 1		
v0.5	General: Fixed wrong piece count when using imitators 1		
v0.6	General: Changed erroneous code to parse given piececount. . . . 1		
v1.5	General: Added license meta-comment to publish package on ctan. 1		
v1.5.1	General: Fixed font problem when writing producing piece-counter in small diagrams. . . . 1		