

T<sub>E</sub>Xmate  
(comprehensive chess annotation in L<sup>A</sup>T<sub>E</sub>X)  
Usage sample and reference

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## 1 Introduction

I tried using the `skak` package.<sup>1</sup> I liked very much its beautiful chess fonts. But somehow I got frustrated. I forget exactly what it was, but it frustrated me. It was about annotating the games, somehow the syntax requirements that `skak` imposed were too cumbersome when an analysis had many variations and subvariations.

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<sup>1</sup>By Torben Hoffmann, 2001.

So I simply didn't do it in T<sub>E</sub>X—I think I didn't do it at all. Until one day I got a game that I wanted to publish. So I went to Word—yes, yes, I'm sorry, but I had no option. Besides, the editors of the *Pennswoodpusher* certainly used Word, so a Word file would be better.

I commented my game, and 'translated' it into a more readable format to send it to my friends. I wanted figurines instead of initials for the pieces (I used a True Type for this), I wanted the main game to be separated from the commentary by paragraph breaks, sub-variations to be indicated differently, etc. The contents of the game, and even the analyzed variations, were of course the same. I started looking at several books to see their chess-formatting habits.

And I figured that being able to transcribe a game from format to format without having to edit the input is, clearly, a task for T<sub>E</sub>X...

T<sub>E</sub>Xmate is the result. The emphasis is on the formatting of annotated games of chess. *skak*'s focus seems to be more graphical: beautiful tools for diagrams (the package itself even keeps track of the position according to the moves in the game—which of course is the deep reason why it's not really flexible about variations and alternative lines—those confuse it).

Commented code is in the file `texmate.dtx`. A user's manual required using the package, so it comes as this one separate file.

## 2 A note on installation

Installation is straightforward: the packages is made of a 'source' (`texmate.dtx` and `texmate.ins`), which generate a 'tex' (`texmate.sty`) and a 'doc' (`texmate.dvi`) with the commented code. In addition, there is this extra 'doc,' `texmatesample.tex`.

But the fonts of the *skak* package have to be installed. The easiest would of course install *skak* itself. I have included the fonts. There are `.mf` files ('source'), `.fd` files ('vf') and a `.map` file.

## 3 Basic conventions

The moves are input with the (short) algebraic system of notation.

**Pieces** Default is English piece initials (Rook, kNight, Bishop, Queen, King).

`\pieceinitials`

But this can be changed with `\pieceinitials`. In fact, T<sub>E</sub>Xmate itself uses this command to initialize the default: `\pieceinitials{PRNBQK}`. The argument is the initials to be used, respectively, for pawn and then left to right in White's initial position. The initial for pawn is given only for diagrams—in game notation the pawn is not indicated.

**Move Numbers** T<sub>E</sub>Xmate keeps track of the move number. Inputting the numbers is totally optional to the user, and although it may be helpful for later edition of the document, sometimes the variations and sub-variations are so complicated that one loses track of them. If the user does indeed input the number, it will override T<sub>E</sub>Xmate's count.

**Delimiters** Moves (and move numbers) are delimited by spaces, periods, or semicolons. None of these will be typeset directly, since  $\TeX$ mate takes care of all formatting and punctuation. Of course, this is customizable.

**Chess mode** All this is done within ‘chess mode:’ just as  $\$$  changes to math mode,  $|$  changes to chess mode. Sometimes (notably tables) you need  $|$  for other things, so you can turn its chess meaning off with `\makebarother`. To turn it back on, `\makebarchess`.

**Checks** should be input (with  $+$ ), even if you don’t like them to be typeset. There is a `\checksign` command (default ‘+’) that you could redefine as nothing.

**Captures** too should be input, with  $x$ , even if not intended to be visible. The command `\takes` holds the sign that will be used for them (default a space-trimmed `\times`).

**Mate** is done through `\mate`. Alternatively, of course, `\#`.

**Promotions** are kind of an exception. Due to how  $\TeX$ mate works, the particle ‘`c8N`’ will produce literally ‘`c8N`,’ instead of ‘`c8♘`.’ I did not think it was worth to change the whole nature of the system just for this, so I will ask the user to use piece-name commands for promotions: ‘`c8\knight`’ (or ‘`c8=\knight`,’ as some people do).

## 4 Formatting and punctuation

The output will be consistent as to punctuation marks. All of the following input streams:

```
|1. e4 e5; 2. Nc3 Nf6; 3. Bb5 a6|,  
|1 e4 e5 2 Nc3 Nf6 3 Bb5 a6|, and even  
|1 e4 e5 Nc3 Nf6 ; Bb5 a6|,
```

will produce, with default settings, ‘**1. e4 e5; 2. ♘c3 ♘f6; 3. ♖b5 a6.**’ This format can be changed redefining the following commands:

<code>\afterno</code>	What comes after the number ( <code>.</code> by default)
<code>\afterw</code>	What comes between white’s and black’s moves ( <code>□</code> )
<code>\afterb</code>	What comes between black’s move and the next number ( <code>;</code> □)
<code>\beforeb</code>	What comes before black’s move when it’s resuming the variation ( <code>\the\move.\□\dots~</code> )
<code>\beforeno</code>	What comes before the number.

The character that symbolizes each pieces (by default the figurines) is contained in the commands `\rook`, `\knight`, `\bishop`, `\queen`, and `\king`, and can be changed at any moment. These piece-name commands, as well as those for chess symbols, can be used in running text. Or in chess mode, for that matter.

## 5 Commentary

[ Within chess mode, the character [ opens a commentary. T<sub>E</sub>Xmate will then  
] expect a move that is an alternative to the one in the text. For example:

```
|34. Nd5? [Ne4!] Bxd5! [Qxd5? 35. Re1!\wBetter] |  
34. ♖d5? [34. ♖e4!]; 34. ... ♕x d5! [34. ... ♗x d5?; 35. ♖e1!±];
```

Commentaries can be nested:

```
|35. Re1 [cxd5?! Qxd5 [Kh8? dxc6\wbetter [c3!?!]\; Kh1] |  
35. ♖e1 [35. cxd5?! ♗x d5 (35. ... ♘h8?; 36. dxc6± (36. c3!?!)) ; 36. ♘h1];
```

As you see, T<sub>E</sub>Xmate takes care of punctuation and fonts. But before go-  
\[ ing about modifying this things, there is an alternative way of commentary:  
\] *control sequences* \[ and \]. They are intended for freer commentary: they  
do not insert any punctuation, and the user has total control over the way the  
commentary is typeset.

```
\ifont      All of this can be modified. The samples that follow later in this document  
\iifont     are probably the best way to learn about this. But here is the abstract expla-  
\iiifont    nation: the main game (boldface by default) is ‘level’ 1. There are 4 levels, and  
\ivfont     their fonts are controlled by \ifont, \iifont, \iiifont, and \ivfont. They  
            can be defined as standard commands like \bfseries, but there’s one caveat:  
            this doesn’t apply by itself to the chess font. Changing levels 3 and 4 is easy;  
            for levels 1 and 2, look at the code of TEXmate.
```

```
\iopen      The symbols that mark the opening and closing of the commentaries are  
\iclose     typeset by the commands \iopen, \iclose, \iiopen, \iiclose, etc. These  
\iiopen     are called by the characters [ and ]. The control sequences \[ and \] call  
\iiclose    for \iopent, \icloset, etc. (‘t’ for ‘text’). If you are going to change these,  
            remember that the first level of commentary is level 2 (1 is the game itself).
```

```
            :  
            Text can be inserted in commentaries, simply by using the | character prop-  
            erly. Examples in the next sections illustrate.
```

### 5.1 Additional commenting tools

```
\dummy      With \dummy and \ddummy you can insert ‘dummy’ moves. If TEXmate was  
\ddummy     expecting White’s move number 32, \dummy will make it expect Black’s move  
            number 32 (half a move is skipped). With \ddummy, it will expect White’s move  
            number 33 (a entire move was skipped). Remember that you can change the  
            move number at any moment simply by typing the new number in the input.
```

```
\white      With \white you force TEXmate to handle the next move as one by White.  
\black      \black forces it to handle it as one by Black. With these commands, TEXmate  
            does not try to keep track of the move number, and so they should be used in  
            connection with numbers. Both | 34 \black| and |\black 34| work in the  
            same way: TEXmate will expect Black’s move number 34.
```

```
\steplevel  If you want to use the fonts of another level without actually invoking a  
\backlevel  commentary, you can use \steplevel and \backlevel. The former increases  
            the level by 1, the latter decreases it by 1. Both then load the corresponding  
            font for the level.
```

Remember that the main game is level 1, the last level of commentary is level 4.

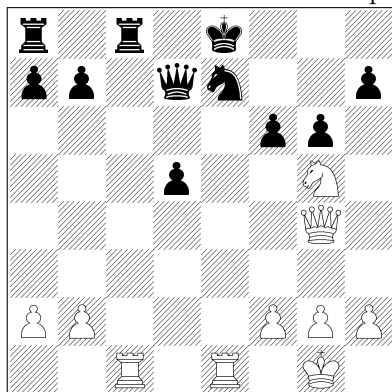
`\threat<...>`

With the `\threat` macro you can introduce threats. This command has an argument, enclosed within `<` and `>`; the argument is set *as regular text* (i.e., not in chess mode). Before it, though, the sign  $\Delta$  is appended. For example:

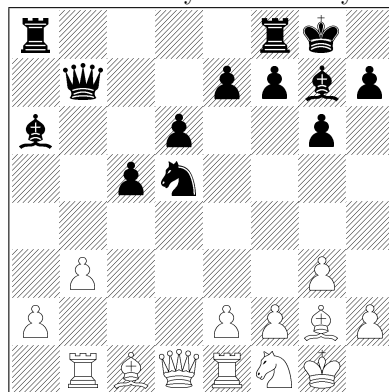
```
|17. Nce5!\threat<h4!\wBetter\attack> Ne8! h4? f5!|
17. ... ♘ce5!  $\Delta$ h4! $\pm$ ↑; 18. ♘e8! h4?; 19. f5!
```

## 6 Diagrams

Producing the diagrams is really straightforward, more so than trying to explain it in words. Here are two examples that should make it really clear already:



```
\diagram{r1r1k/pp1qn2p/5pp/3p2N/%
6Q/8/PP3PPP/2R1R1K}
```



```
\diagram{r4rk/1q2ppbp/b2p2p%
2pn//1P4P/P3PPBP/1RBQRNK}
```

`\diagram`

The diagram is typeset from the top board file to the bottom one, and from left to right. Numbers mean consecutive empty squares; lowercase letters mean black pieces; uppercase letters are white pieces. `/` finishes a line. `TEXmate` will fill any empty squares at the right of the last piece in the file.

For the pieces you use the letters defined by `\pieceinitials` (default `PRNBQK`).

`\diagramsize`

The default size for the diagram (each of its squares) is 18pt. It can be changed modifying the `LATEX` length `\diagramsize`.

`notfilling`

The diagrams don't have to be  $8 \times 8$ . If you choose the `notfilling` option to `TEXmate`, it will not fill up the remaining squares in incomplete files, so you

`\SquareNo`

can have  $4 \times 4$  boards, for example. The `\SquareNo` variable holds the number of squares per line, and it can be modified.

## 7 Samples

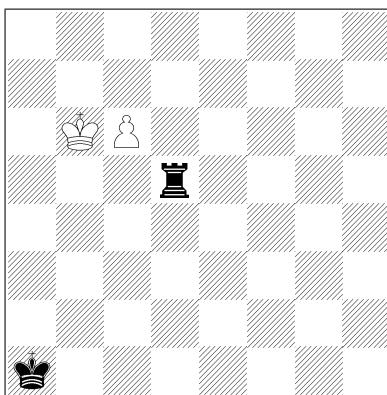
The following are examples from real life. Modifying a few commands, I was able to mimic the formats of two books, and I present a game from each. Looking at the code for these samples must be the best way to learn how to use `TEXmate`.

## 7.1 A famous study

But first comes a beautiful position. I used almost the default formatting of  $\text{\TeX}mate$ , except redefining

```
\renewcommand\afterb{ }
\renewcommand\iiclose{\leavevmode\unskip} }
```

so that there is no semicolon between black and white moves. I chose this because there are alternatives in the text-scarce commentaries, and they are separated by ;.



This position has been associated to the name of a Spanish amateur, Saavedra. Its history is interesting: it seems that a similar endgame was reached in a game toward the end of the 19<sup>th</sup> century, and called a lot of attention. Zukertort published an analysis of it—almost complete, but not quite. And then it was left to Saavedra to find, while reading Zukertort’s article, a move that must be counted among the most amazing chess tricks to be found anywhere.

**1. c7 ♖d6+ □ 2. ♜b5** [2. ♜c5 ♖d1! 3. c8♞ ♖c1+=; 2. ♜b7 ♖d7 △Rxc7=] **2. . . . ♖d5+ 3. ♜b4** [3. ♜b6 ♖d6+] **3. . . . ♖d4+ 4. ♜d3 ♖d3+ 5. ♜c2 ♖d4! 6. c8♞!!** [What Zukertort overlooked. He ‘only’ saw 6. c8♞ ♖c4+ 7. ♞xc4 stalemate! Promoting a rook, White now threatens ♖a8#] **6. . . . ♖a4 7. ♜b3 △♞c1#, ♜xb4+- 1-0**

OK, here is the same game with a different format for resuming moves:

```
\renewcommand\beforeb{ }
```

makes resuming black moves to be typeset as if they were not resuming ones.

So:

**1. c7 ♖d6+ □ 2. ♜b5** [2. ♜c5 ♖d1! 3. c8♞ ♖c1+=; 2. ♜b7 ♖d7 △Rxc7=] **♖d5+ 3. ♜b4** [3. ♜b6 ♖d6+] **♖d4+ 4. ♜d3 ♖d3+ 5. ♜c2 ♖d4! 6. c8♞!!** [What Zukertort overlooked. He ‘only’ saw 6. c8♞ ♖c4+ 7. ♞xc4 stalemate! Promoting a rook, White now threatens ♖a8#] **♖a4 7. ♜b3 △♞c1#, ♜xb4+- 1-0**

## 7.2 Watson's format

The following game opening is taken from John Watson's wonderful *Secrets of Modern Chess Strategy* (Gambit, 1998), page 254. I also copy his formatting: in addition to double-column (on which I blame the overfills), 'x' for captures, long commentary in individual paragraphs, no period (but a space) after numbers. These are the appropriate declarations:

```
\renewcommand\afterno{~}
\renewcommand\iipent{\par}
\renewcommand\iicloset{\par}
\renewcommand\takes{x}
```

Timoshenko – Itkis  
*Baile Herculane 1996*

1 e4 e6 2 d4 d5 3 ♘c3 ♘f6 4 e5  
♘fd7 5 f4 c5 6 ♘f3 ♘c6 7 ♙e3  
cxd4 8 ♘xd4 ♖b6 9 ♗d2 ♖xb2  
10 ♖b1 ♗a3

Znosko-Borovsky's principle is highly relevant here: the queen itself provides some counterplay against White's c3 point, which give Black a chance against the coming onslaught.

11 ♙b5! ♘xd4!?

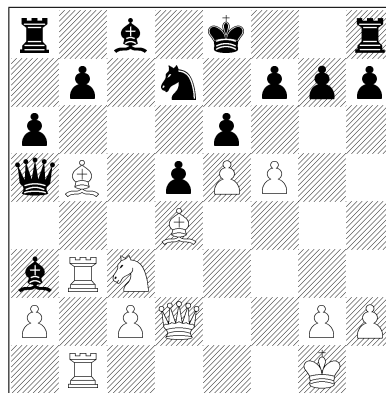
Risky. Later games saw 11. ... ♘db8 12 f5! ♙b4!, apparently leading to a messy equality.

12 ♙xd4 ♙b4 13 0-0 a6 14 ♖b3  
♗a5 15 ♖fb1 ♙a3!?

Very provocative. 15. ... ♖xb5 is unclear after both 16 ♘xb5 ♙xd2 and 16 ♖xb4 ♗c6.

16 f5!! (D)

Timoshenko attributes this move to Kruppa.



16. ... axb5 17 ♖xa3! ♗xa3  
18 ♘xb5 ♖xa2 19 ♘d6+ ♙f8 20 ♖a1  
♗xa1+ 21 ♙xa1 ♖xa1+ 22 ♙f2

Here the game went 22. ... ♖a8?  
23 ♗g5! f6 24 ♗h5 g6 25 ♗h6+ with  
a winning attack. Better seems 22. ...  
♘xe5 (Nunn), leading to 23 ♗c3 ♘g4+  
24 ♙e2, when 24. ... ♖a8? 25 ♗c7!  
is good for White, but 24. ... ♙e7  
holds out hope for equality, for exam-  
ple 25 ♘xc8+ (25 ♖b4!? is another  
possibility) 25. ... ♖xc8 26 ♖xc8 ♖a4!  
27 ♖xb7+ ♙f6.

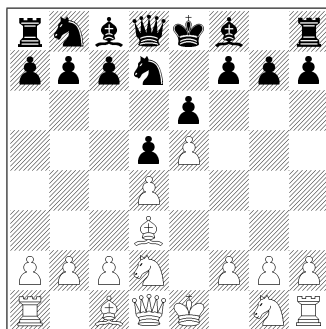
### 7.3 Schiller's format

Now I take a game from Eric Schiller's *Standard Chess Openings* (Cardoza Publishing, 2002), pages 291–2. His formatting includes: ‘x’ for captures, initials (not figurines) for pieces, semicolon after black's moves, period after number (but no space after it),<sup>2</sup> in-text commentary without punctuation, and a ‘1...Nf6’ form for black resuming moves:

```
\renewcommand\afterno{.}
\renewcommand\afterb{;}
\renewcommand\beforeb{\the\move\dots}
\renewcommand\rook{R}\renewcommand\knight{N}\renewcommand\bishop{B}
\renewcommand\queen{Q}\renewcommand\king{K}
\renewcommand\iiopen{.}\renewcommand\iiopent{.}
\renewcommand\iiclose{\leavevmode\unskip\ }
\renewcommand\iicloset{\leavevmode\unskip\ }
```

Note the use of Plain TeX's `\unskip` in commentary-closing commands: it avoids double spaces. But it requires a previous `\leavevmode`.

(102) TARRASCH - ECKART [C05]  
Nuremberg, 1889  
1.e4 e6; 4.d5 Nd2; 4.Nf6 e5; 5.Nfd7 Bd3



This is the way that Tarrasch [...]. **5...c5; 6.c3 Nc6; 7.Ne2.** 7.Ngf3 is also common. **7...Qb6.** Black should exchange in the center instead and only then play ...Qb6. **8.Nf3 Be7.** 8...cxd4; 9.cxd4

9...f6!; 10.exf6 Nxf6; 11.0-0 Bd6 gives Black a reasonable game [...]. Here is just one sample line: 12.Bf4!? This sacrifices the b-pawn in return for play on the dark squares. 12...Bxf4; 13.Nxf4 Qxb2; 14.Ng5 Ke7 and White has to justify the material investment.

10.Kf1 Be7. In this sharp line of the French, opening lines with 10...f6 is a wiser move. 11.a3 Nf8; 12.b4 Bd7; 13.Be3 Nd8. Black does have a plan: to play Bb5 and exchange the light-squared bishops. [...] 14.Nc3 a5. [...] Now the

---

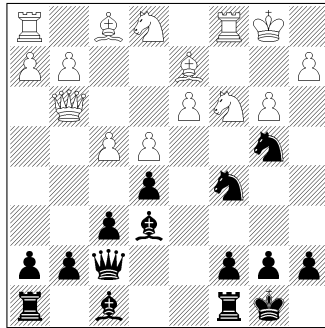
<sup>2</sup>And here you can see this book was typeset with Word: putting a space after the period risks an unacceptable line break there. Word doesn't have something like our `~`.



scope of the Bd7 is severely limited, and Black's plan, beginning with 13...Nd8, is exposed as faulty.

**9.0-0 0-0.** Black should just play 9...f6 here. **10.Nf4 Nd8 [...]** **11.Qc2! f5.** 11...g6; 12.h4 c4; 13.Bxg6 hxg6; 14.h5 g5; 15.Ng6! fxg6; 16.Qxg6+ Kh8; 17.Bxg5 Bxg5; 18.Nxg5 Rf7; 19.Nxf7+ Nxf7; 20.Qxf7 Qxb2; 21.h6 and Black gets mated. **12.exf6 Nxf6; 13.Ng5.** White's pieces are swarming on the king-side, and Black just can't get enough defensive pieces to rescue the king.

**13...g6.**



**14.Bxg6! hxg6; 15.Qxg6+ Kh8; 16.Qh6+ Kg8; 17.Ng6.** White won.

## 8 Chess symbols

The table on the next page lists  $\text{\TeX}$ mate's chess symbols and the commands that produce them. The symbols come from the font of `skak`, but some of them have been adjusted for size and position. These modifications are shown in the third column.

All the signs are `\smash`'ed (the box that contains them is zero in height and depth) so that they don't affect interline spacing.

<code>\wbetter</code>	$\pm$	Shifted
<code>\bbetter</code>	$\mp$	Shifted
<code>\wBetter</code>	$\pm$	Shifted
<code>\bBetter</code>	$\mp$	
<code>\WBetter</code>	$\pm$	<code>\large</code>
<code>\BBetter</code>	$\mp$	<code>\large</code>
<code>\equal</code>	$=$	
<code>\unclear</code>	$\infty$	<code>\Large, shifted</code>
<code>\compensation</code>	$\infty$	<code>\large</code>
<code>\development</code>	$\circ$	<code>\footnotesize</code>
<code>\spaceadv</code>	$\circ$	<code>\footnotesize</code>
<code>\attack</code>	$\rightarrow$	<code>\large</code>
<code>\initiative</code>	$\uparrow$	<code>\large</code>
<code>\counterplay</code>	$\leftrightarrow$	<code>\large</code>
<code>\zugzwang</code>	$\odot$	<code>\small</code>
<code>\onlymove</code>	$\square$	<code>\footnotesize</code>
<code>\withidea</code>	$\triangle$	<code>\footnotesize</code>
<code>\betteris</code>	$\triangle$	<code>\footnotesize</code>
<code>\boardfile</code>	$\leftrightarrow$	
<code>\boarddiagonal</code>	$\nearrow$	<code>\small</code>
<code>\boardcenter</code>	$\boxplus$	<code>\small</code>
<code>\kingside</code>	$\gg$	
<code>\queenside</code>	$\ll$	
<code>\weak</code>	$\times$	<code>\small</code>
<code>\ending</code>	$\perp$	<code>\footnotesize</code>
<code>\bishops</code>	$\square$	
<code>\oppositebishops</code>	$\square$	
<code>\samebishops</code>	$\blacksquare$	
<code>\unitedpawns</code>	$\infty$	
<code>\separatedpawns</code>	$\circ\circ$	
<code>\doubledpawns</code>	$\circ\circ$	
<code>\passedpawn</code>	$\circ$	
<code>\pawnsno</code>	$>$	<code>\small</code>
<code>\timetrouble</code>		
<code>\with</code>	$\perp$	<code>\small</code>
<code>\without</code>	$\lrcorner$	<code>\small</code>
<code>\chessetc</code>	$\parallel$	
<code>\chesssee</code>	$\dashv$	