

Unicode request for one chess symbol

Gavin Jared Bala, gavin.jared, gmail.com

Kirk Miller, kirkmiller, gmail.com

2023 November 17

This request is for a symbol used in chess notation, an equals sign with infinity above: $\cong$. It follows on [L2/17-033R2](#).

Background

The symbol $\approx$ U+2BF9 EQUALS SIGN WITH INFINITY BELOW is defined in Unicode, following the *Enciklopedija Šahovskih Završnica*, as meaning “with compensation for the material” (Fig. 2 in L2/17-033R2). However, many authors instead use an equals sign with infinity *above*, $\cong$, for this meaning. Given the name of the existing character U+2BF9 $\approx$, it would be awkward to unify the two. Moreover, the two symbols are sometimes used contrastively: The position of the infinity sign may be used to indicate which side has the compensation or which side stands better. (See Figures 1 and 2.)

Rather than being an atomic character, $\cong$ might be composed of an = sign plus U+1AB2 COMBINING INFINITY: $\langle \equiv \rangle$. However, its partner U+2BF9 $\approx$ could have been composed of infinity and U+033F COMBINING DOUBLE OVERLINE, $\langle \overline{\infty} \rangle$, and was not. If one is not decomposable, then neither should the other be. Semantically, these symbols are not an equal sign modified by an infinity. In chess notation, an = sign alone means that the position is equal, and an ∞ sign alone means that the position is unclear; thus, the meaning of $\approx$ and $\cong$ is not a combination of the two. Consequently, we propose $\cong$ as an atomic Unicode character.

Character

$\cong$ 2B74 EQUALS SIGN WITH INFINITY ABOVE.

Properties

2B74;EQUALS SIGN WITH INFINITY ABOVE;So;O;ON;;;;;N;;;;;

Chart

We propose assigning $\cong$ to one of the three remaining spaces in Miscellaneous Symbols and Arrows, the block that contains *Informator* symbols (U+2BBA–2BBC and U+2BF9–2BFE), which include the character U+2BF9 $\approx$ (blue cell) that pairs with the proposed symbol $\cong$ (pink cell).

Miscellaneous Symbols and Arrows

	2B7	2B8	2B9	2BA	2BB	2BC	2BD	2BE	2BF
0	↵	↔	↶	↷	↵	■	⊞	⚏	✠
1	↶	↕	↷	↸	↵	◆	⬠	Ⓢ	♀
2	→	↔	↶	↷	↵	⬢	⦿	⤴	⚡
3	↓	↕	↶	↷	↵	●	♀	⤴	☎
4	$\cong$	↔	↶	↷	↵	●	♀	⤴	⌘
5		↑	→	↗	↵	▲	☺	♂	⌘
6	↶	⇒		↘	↵	▼	◯	⤴	⌘
7	↶	⇓	▽	↘	↵	◀	⊙	✠	⌘
8	↘	⦿	◀	↶	↑	▶	⌈⌋	↘	✱
9	↘	⦿	▲	↶	⬠	⚏	⚏	↶	$\approx$
A	↔	⦿	▶	↶	⬠	◐	⚏	★	∞
B	⦿	⦿	▼	↶	⬠	◐	⚏	★	∞
C	↔	↶	◀	↑	⬠	✦	⚏	⬅	∞
D	↕	↶	▲	↑	⊠	✦	♀	⬆	♂
E	↶	↶	▶	↓	⊠	✦	♀	↶	⌋
F	↕	↶	▼	↓	⊠	✦	♀	↶	⌋

Figures

+−	White wins as a human (easy win for a good player)
±	White wins as a computer (proven win for White)
±	White is better (without a proof)
	White is not worse (equal where White plays for a win)
∞	unclear (a playable position)
=	equal (very close to the final draw)
	Black is not worse (equal where Black plays for a win)
⌞	Black is better (without a proof)
⌞	Black wins as a computer (proven win for Black)
−+	Black wins as a human (easy win for a good player)
!	a very good move
!!	an excellent move
?	a mistake
??	a blunder
!?	a move deserving attention
?!	a dubious move
△	with the idea
■	with reversed colours
—	see

Fig. 1. Vladica Andrejić, *The Ultimate Guide to Antichess* (Chess Informant, 2018), p. vi. A table of annotation symbols, with the proposed symbol standing for “White is not worse” forming a natural and contrastive pair with U+2BF9 meaning “Black is not worse.” Note that this book is about a chess *variant*: in antichess, the goal is to lose all one’s pieces, or get stalemated. Mark Watkins weakly solved this variant in 2016 (1.e3! wins for White; see http://magma.maths.usyd.edu.au/~watkins/LOSING_CHESS/), so it is possible to speak about *proven* won positions right out of the opening. This necessitates the use of some of the symbols with different meanings from the normal ones, e.g. ± for “White wins as a computer” rather than “White has a clear advantage”. As an additional unusual use of a symbol, we note the use of ■ U+2BBB OVERLAPPING WHITE AND BLACK SQUARES for “with reversed colours” rather than “bishops of opposite colour.”

Notes

[[edit](#)]

- a. [^] *Chess Informant* has given two distinct glyphs for the same concept: ∞ denotes the circumstance where White has compensation for Black's material advantage, and ∞ denotes the circumstance where Black has compensation for White's material advantage.^[2]

Fig. 2. Wikipedia (https://en.wikipedia.org/wiki/Chess_annotation_symbols) contrasting the two symbols. Here, the infinity below the equals means that it is White who has the compensation, while the infinity above the equals means that it is Black who has the compensation.

The chess board with its coordinates:		
8		± White stands slightly better
7		∓ Black stands slightly better
6		± White stands better
5		∓ Black stands better
4		+− White has a decisive advantage
3		−+ Black has a decisive advantage
2		= balanced position
1		∞ unclear position
a		 compensation for the material
b		> strong (sufficient)
c		< weak (insufficient)
d		≥ better is
e		≤ weaker is
f		! good move
g		!! excellent move
h		? bad move

Fig. 3. Arthur van der Oudeweetering, *Improve Your Chess Pattern Recognition* (New in Chess, 2014), p. 10. Explanation of symbols.

Identical or nearly identical) tables appear in Yaroslav Srokovski, *Chess Training for Post-beginners* (New in Chess, 2014), p. 6; Or Cohen, *A Vigorous Chess Opening Repertoire for Black* (New in Chess, 2014), p. 12; Alexey Bezgodov, *The Extreme Caro-Kann* (New in Chess, 2014), p. 6; Larry Kaufman, *Sabotage the Grünfeld* (New in Chess, 2014), p. 6; Viktor Moskalenko, *The Diamond Dutch* (New in Chess, 2014), p. 5; and Viktor Moskalenko, *The Perfect Pirc-Modern* (New in Chess, 2015), p. 243.

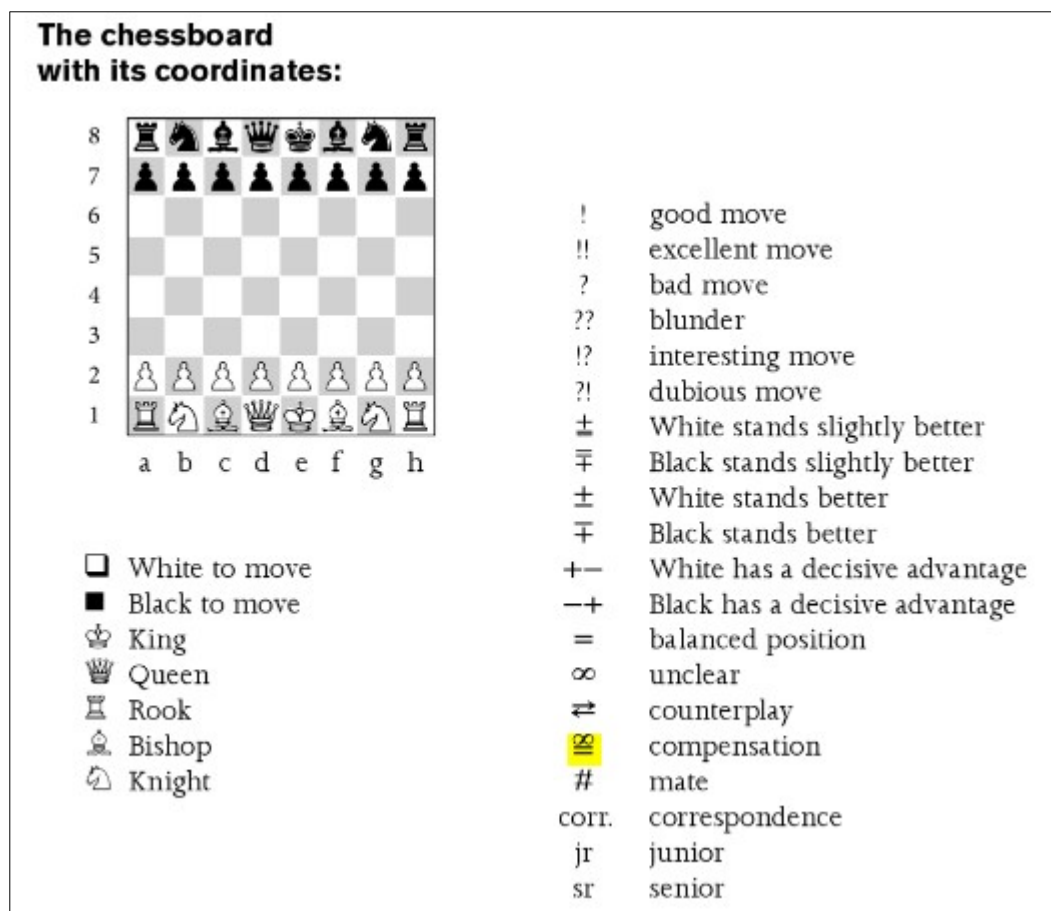


Fig. 4. Evgeny Sveshnikov and Vladimir Sveshnikov, *A Chess Opening Repertoire for Blitz and Rapid* (New in Chess, 2016), p. 6.

Identical tables appear in Vincent Moret, *My First Chess Opening Repertoire for White* (New in Chess, 2016), p. 6; Vincent Moret, *My First Chess Opening Repertoire for Black* (New in Chess, 2017), p. 6; and Jörg Hickl, *The Power of Pawns* (New in Chess, 2016), p. 6.

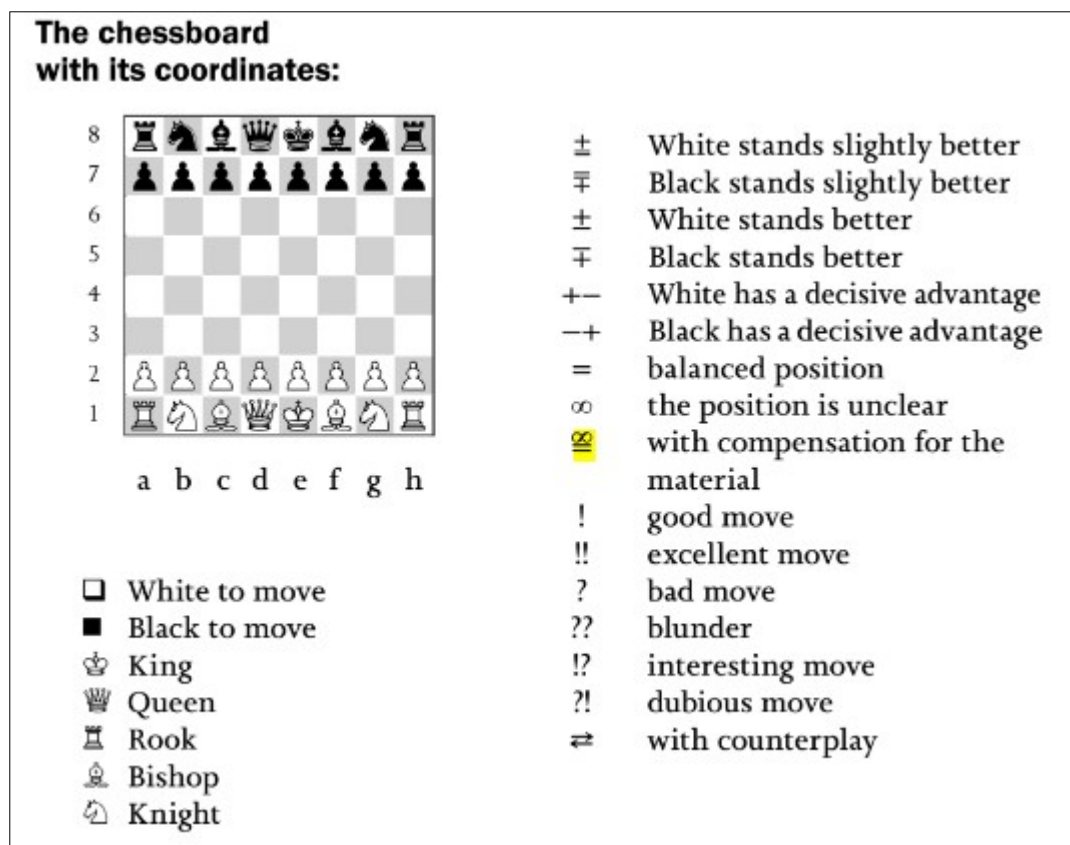
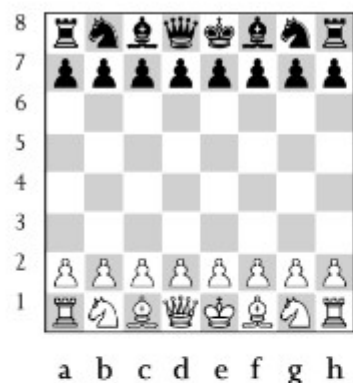


Fig. 5. Steve Giddins, *The New in Chess Book of Chess Improvement* (New in Chess, 2017), p. 10. Another table of symbols.

The chessboard

with its coordinates:

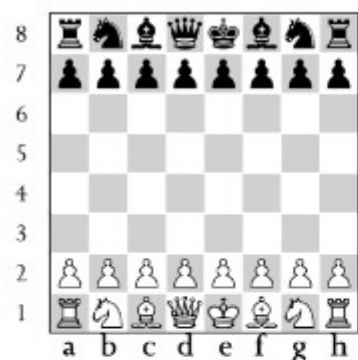


- White to move
- Black to move
- ♔ King
- ♚ Queen
- ♖ Rook
- ♗ Bishop
- ♘ Knight

- ± White stands slightly better
- ∓ Black stands slightly better
- ± White stands better
- ∓ Black stands better
- +− White has a decisive advantage
- −+ Black has a decisive advantage
- = balanced position
- ∞ the position is unclear
- ♙ with compensation for the material
- ! good move
- !! excellent move
- ? bad move
- ?? blunder
- !/? interesting move
- ?/! dubious move
- ↔ with counterplay
- with attack
- ↑ with initiative
- △ with the idea of
- a forced move

Fig. 6. Konstantin Sakaev and Konstantin Landa, *The Complete Manual of Positional Chess* (New in Chess, 2017), p. 15. Another table of symbols.

The chessboard with its coordinates:



- White to move
- Black to move
- ♔ King
- ♚ Queen
- ♖ Rook
- ♗ Bishop
- ♘ Knight

- ± White stands slightly better
- ∓ Black stands slightly better
- ± White stands better
- ∓ Black stands better
- +− White has a decisive advantage
- −+ Black has a decisive advantage
- = balanced position
- ∞ the position is unclear
- ⚖ with compensation for the material
- ! good move
- !! excellent move
- ? bad move
- ?? blunder
- !/? interesting move
- ?/! dubious move
- ↔ with counterplay
- with attack
- ↑ with initiative

Fig. 7. Nikolai Kalininchenko, *Winning in the Chess Opening* (New in Chess, 2018), p. 9. Another table of symbols.

White should satisfy himself with approximate equality after 8.♙xf6 ♖xf6 9.e5 ♖h4+ 10.g3 ♖e4 11.♖g1 ♖e3=.

8...g5 9.♙g3

White should not retreat the bishop: 9.e5 gxf4 10.exf6 ♖xf6 11.♖d3 ♖g5 12.♘g1 ♘d7 13.♘h3 ♖a5 14.♙e2 ♘f6.

9...♘xe4 10.♙e5 ♘f6 11.♘g3

11.h4 gxf4 12.♖xh4 ♘bd7 13.♙g3 ♘d5+.

11...♘bd7 12.♙d3 ♖b6

12...♘xe5 13.dxe5 ♘d5+ or 13...♘d7+.

Fig. 8. Alexey Bezgodov, *The Extreme Caro-Kann* (New in Chess, 2014), p. 258. The proposed symbol being used in context, analysing the opening of the game Nadezhda Kharmunova – Maria Butuc, Suzdal 2009. (The preceding moves were 1.e4 c6 2.d4 d5 3.f3 e6 4.♘c3 ♗b4 5.♙e2 dxe4 6.fxe4 ♗f6 7.♗g5 h6 8.♗h4.)

By completing his development, White in effect also decides the game in his favour. 18.dxe5 ♖xe5+ 19.♘e4 f5 20.0-0 fxe4 21.♙c2 ♘f6.

18...♗xd3 19.♖xd3 b6 20.♖g3 b5 21.♘e4 ♖d8 22.♖e5 ♗f8 23.♖c5+ ♔d7 24.♖d6+ 1-0

Fig. 9. Ibid, p. 259.

18...♖xa2!

Regarded as best now, but the alternative is also hard to refute:

18...♖a5 19.♟c1 ♟c7 And now, instead of the previous tries **20.♙c4 ♟b6!** (Cvek-Kalod, Brno ch-CZE 2006); **20.♙h3 ♟c5!**; **20.h4 ♟c5 21.♙g2 ♟xb3! 22.axb3 ♜fc8—+** I think **20.♙g2!** is more promising: the bishop keeps an eye on d5 and White gets ready to fight for the f-file quickly, with the following alternatives:

A) **20...♟b5 21.h4 ♜fc8 22.♙h3** and now the bishop exploits the fact that e6 is unprotected: **22...♟f8 23.♞hf1 ♞xc1+ 24.♚xc1 ♖xa2 25.♞xf8+ ♙xf8 26.♙xe6+ ♚h8 27.♖xb4±**;

B) **20...♜fc8 21.♞hf1 ♟b5 22.♙h3! ♟f8** (22...♞xc1+ 23.♚xc1 ♟f8 24.a4!+—) **23.♞xf8+ ♞xf8 24.♙xe6+ ♚h8 25.g6**;

Fig. 10. Jesús de la Villa, *Dismantling the Sicilian* (New in Chess, 2009), p. 329.

PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS

FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹.

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html for guidelines and details before filling this form.Please ensure you are using the latest Form from std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html.See also std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html for latest Roadmaps.

A. Administrative

1. Title:	Unicode request for one chess symbol	
2. Requester's name:	Gavin Jared Bala, Kirk Miller	
3. Requester type (Member body/Liaison/Individual contribution):	individual	
4. Submission date:	2023 November 17	
5. Requester's reference (if applicable):		
6. Choose one of the following:		
This is a complete proposal:	yes	
(or) More information will be provided later:		

B. Technical – General

1. Choose one of the following:		
a. This proposal is for a new script (set of characters):	no	
Proposed name of script:		
b. The proposal is for addition of character(s) to an existing block:	yes	
Name of the existing block:	Miscellaneous Symbols and Arrows	
2. Number of characters in proposal:	1	
3. Proposed category (select one from below - see section 2.2 of P&P document):		
A-Contemporary	☒	B.1-Specialized (small collection)
C-Major extinct	☐	B.2-Specialized (large collection)
F-Archaic Hieroglyphic or Ideographic	☐	E-Minor extinct
		G-Obscure or questionable usage symbols
4. Is a repertoire including character names provided?	yes	
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?	yes	
b. Are the character shapes attached in a legible form suitable for review?	yes	
5. Fonts related:		
a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?	Kirk Miller	
b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):	SIL font license	
6. References:		
a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?	yes	
b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?	yes	
7. Special encoding issues:		
Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?	no	

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at www.unicode.org for such information on other scripts. Also see Unicode Character Database

¹ Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

(www.unicode.org/reports/tr44/) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	no
If YES explain _____	
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?	yes
If YES, with whom? <i>Author is a member of the user community.</i>	
If YES, available relevant documents: _____	
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?	
Reference: _____	
4. The context of use for the proposed characters (type of use; common or rare)	chess
Reference: _____	
5. Are the proposed characters in current use by the user community?	yes
If YES, where? Reference: <i>See figures</i>	
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	no
If YES, is a rationale provided? _____	
If YES, reference: _____	
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	yes
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	no
If YES, is a rationale for its inclusion provided? _____	
If YES, reference: _____	
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	no
If YES, is a rationale for its inclusion provided? _____	
If YES, reference: _____	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character?	no
If YES, is a rationale for its inclusion provided? _____	
If YES, reference: _____	
11. Does the proposal include use of combining characters and/or use of composite sequences?	no
If YES, is a rationale for such use provided? _____	
If YES, reference: _____	
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? _____	
If YES, reference: _____	
12. Does the proposal contain characters with any special properties such as control function or similar semantics?	no
If YES, describe in detail (include attachment if necessary) _____	

13. Does the proposal contain any Ideographic compatibility characters?	no
If YES, are the equivalent corresponding unified ideographic characters identified? _____	
If YES, reference: _____	