# Universal Multiple-Octet Coded Character Set International Organization for Standardization Organisation internationale de normalisation Международная организация по стандартизации 

## Doc Type: Working Group Document <br> Title: Proposal to encode symbols for chess notation <br> Source: Michael Everson and Garth Wallace <br> Status: Individual Contribution <br> Action: For consideration by JTC1/SC2/WG2 and UTC <br> Date: 2017-01-26

In the multilingual Enciklopedija šahovskih završnica (1993), a table of widely-used chess notation symbols is given. These form a system of symbols used by the Serbian chess magazine Informator (officially Chess Informant in English, though many people just refer to it by its Serbian name). Informator also publish the Encyclopedia of Chess Openings, the Encyclopedia of Chess Endings, the Encyclopedia of Chess Problems, and other references. These symbols enable the publishing of expert annotation of high level games in a language-independent way. Informator has been an important publication since the 1960 - -historically, it was a major means for the dissemination of chess expertise across the Iron Curtain. Most of the characters it uses are encoded in the UCS. This document offers mappings for the existing characters and proposes the addition of nine missing characters.

## Symbols used in chess notation



| 2．Existing characters |  |  |  |
| :---: | :---: | :---: | :---: |
| Code | Glyph | Chess usage |  |
| 2A72 | $\pm$ | white stands slightly better |  |
| 2A71 | $\overline{\text { F }}$ | black stands slightly better |  |
| 00B1 | $\pm$ | white has the upper hand |  |
| 2213 | 干 | black has the upper hand |  |
| 002B 2212 | ＋－ | white has a decisive advantage |  |
| 2212 002B | －＋ | black has a decisive advantage |  |
| 003D | $=$ | even |  |
| 221 E | $\infty$ | unclear |  |
|  | $\overline{\bar{\infty}}$ | with compensation for the material | MISSING |
| 27F3 | C | development advantage |  |
| 25CB | $\bigcirc$ | greater board room |  |
| 2192 | $\rightarrow$ | with attack |  |
| 2191 | $\uparrow$ | with initiative |  |
| 21C6 | $\leftrightarrows$ | with counter－play |  |
| 2A00 | $\bigcirc$ | zugzwang | size？2299？$\odot$ ；cf 25CB |
| 0023 | \＃（\＃） | mate |  |
| 0021 | ！ | a very good move |  |
| 203C | ！！ | an excellent move |  |
| 003F | ？ | a mistake |  |
| 2047 | ？？ | a blunder |  |
| 2049 | ！？ | a move deserving attention | not in STIX font？ |
| 2048 | ？！ | a dubious move | not in STIX font？ |
| 25B3 | $\triangle$ | with the idea |  |
| 25A1 | $\square$ | only move |  |
| 2313 | $\bigcirc$ | better is |  |
| 21D4 | $\Leftrightarrow$ | file |  |
| 21D7 | $\pi$ | diagonal |  |
| 229E | 田 | centre |  |
| 27EB | 》 | king＇s side |  |
| 27EA | 《 | queen＇s side |  |
| 00D7 | $\times$ | weak point |  |
| 22A5 | $\perp$ | ending |  |
|  | $\square$ | pair of bishops | MISSING |
|  | $\square$ | bishops of opposite colour | MISSING |
|  | $\square$ | bishops of the same colour | MISSING |
|  | －0 | united pawns | MISSING |
|  | 0．0 | separated pawns | MISSING |
|  | 8 | double pawns | MISSING |
|  | ¢ | passed pawn | MISSING |


| 003 E | $>$ | advantage in number of pawns |  |
| :--- | :--- | :--- | :--- |
| 2295 | $\oplus$ | time |  |
| 221 F | $\llcorner$ | with | MISSING |
|  | $\perp$ | without |  |
| 2016 | $\\|$ | etc |  |
| 2212 | - | see |  |

## 3．Unicode Character Properties．

2BF3；EQUALS SIGN WITH INFINITY BELOW；SO；0；ON；；；；；N；；；；；
2BF4；INTERLOCKED WHITE SQUARES；So；0；ON；；；；N；；；
2BF5；INTERLOCKED WHITE AND BLACK SQUARES；SO；0；ON；；；；；N；；；；；
2BF6；INTERLOCKED BLACK SQUARES；SO；0；ON；；；；；N；；；；
2BF7；UNION SYMBOL；SO；0；ON；；；；$N ;$ ；；；
2BF8；SEPARATION SYMBOL；SO；0；ON；；；；；N；；；；；
2BF9；DOUBLE MEDIUM SMALL WHITE CIRCLE；So；0；ON；；；；N；；；；；
2BFA；MEDIUM SMALL WHITE CIRCLE WITH UP ARROW；So；0；ON；；；；；N；；；；
2BFB；REVERSED RIGHT ANGLE；So；0；ON；；；；；N；；；；；

## 4．Bibliography．

Matanović，Aleksandar（ed．）．1993．Enciklopedija šahovskih završnica＝Энциклопедия шахматных окончаний＝Encyclopaedia of Chess Endings＝Enzyklopädie der Schachendspeile＝Encylopédie des finales d＇echecs＝Enciclopedia de Finales de Ajedrez＝Enciclopedia dei Finali negli Scacchi＝ Encyklopedi över Slutspel i Schack＝収局大成．Nicosia：S．I．Chess Informant Ltd．

## Figures





 9． $\mathrm{a}^{\mathrm{d}} \mathrm{d} 7+-$

1994．1．．．象c5 2． 2 12．恖 c 2


 a3 $\triangle$ © d5－＋I a3 5．g6 hg6［5．．．h6？？










 sa3○］0：1［Halifman］
 9．b6 h3 10．点g1 04d6 11．b7！8b7 12.




真c7 意e4（11．．．h4 12．gh4 aff 13．h5！ g3 14．気e5 g2 15．量d4＋－－）12．重d8








 dc4 6．ge4＋－I 4．16 点d7 5．bc4 dc4 6．ds b3 7．c6 息e6 8．de6 te6 la，恙





Figure 1．A typical page from the Enciklopedija Šahovskih Završnica， 1993. This is certainly plain text．

# SISTEM ZNAKOVA • CИCTEMA 3HAKOB • CODE SYSTEM • ZEICHEN－ERKLÄ－ RONG • SYSTEME DE SIGNES • SISTEMA DE SIGNOS • SPIEGAZIONE DEI SIGNI －TECKENFÖRKLARING • 解説記号 • نظا م الرموز 

$\pm$ beli stoji nešto bolje－у бельых несколько лучше－white stands slightly better－Weiss steht etwas besser－les blancs sont un peu mieux－d blanco está algo mejor－il bianco sta un

$\overline{\overline{+}}$ crni stoji nešto bolje－у черных несколько лучше • black stands slightly better－Schwarz steht etwas besser • les noirs sont un peu mieux－el negro está algo mejor－il nero sta un po＇ meglio • svart står något bättre • 黑や・優染 • L و
$\pm$ beli stoji bolje－у белых лучше－white has the upper hand－Weiss steht besser－les blancs sont mieux－el blanco está mejor • il bianco sta meglio－vit står bättre－A 優知－ الإيه بي وع مسـيطر

干 crni stoji bolje－у чсрных лучшс－black has the upper hand－Schwarz steht besser－les noirs sont mieux • el negro está mejor－il nero sta meglio • svart stảr bättre－黑 優勢 • الاسود ني وه مسيطر

+ －beli ima odlučujuću prednost－у белых решающес преимущество－white has a decisive advan－ tage－Weiss hat entscheidenden Vorteil－les blancs ont un avantage décisif－el blanco tiene una ventaja decisiva－il bianco é in vantaggio decisivo－vit har avgörande fordel－

－＋crni ima odlučujuću prednost－у черных решающее преимущество－black has a decisive advan－ tage－Schwarz hat entscheidenden Vorteil－les noirs ont un avantage décisif－el negro tiene una ventaja decisiva－il nero é in vantaggio decisivo－svart har avgörande fördel ．黒 勝勢 •
$=$ jednako • равно • even • ausgeglichen • égalité • igual • equivalente • lika • 形巭 4 角 •
$\infty$ neizvesno－неизвсстно • unclear • unklar • incertain • incierto • incerto • oklar • 形妿不明－ $\tau$＿olg ，
$\overline{\bar{\infty}}$ kompenzacija za materijal－компенсация за матсриал－with compensation for the material － mit Kompensation für den materiellen Nachteil－avec compensation pour le matériel • con compensación por el material－con compenso per il vantaggio materiale avversario－med

C razvojna prednost • ирсимущество в развитии • development advantage－Entwicklungsvorsprung －avantage de développement－ventaja de desarrollo－vantaggio di sviluppo－utveckling－ sförsprăng • 展開よ L •
O prostorna prednost－преимушество в пространстве－greater board room－beherrscht mehr Raum • avantage despace－ventaja de espacio－maggior vantaggio spazialc • terrängfördel •模 桹 大 •（
$\rightarrow \quad$ sa napadom－с атакой－with attack－mit Angriff • avec attaque－con ataque • con attacco • med angrepp • 攻－势 ，
$\uparrow$ sa inicijativom－с инициативой－with initiative－mit Initiative • avec initiative • con iniciative

$\leftrightarrows \quad$ sa protivigrom－с контригрой • with counter－play－mit Gegenspiel • avec contre－jeu • con contrajuego－con controgioco e med motspel o 反 㫨－．．．
－iznudica • цугцванг • zugzwang • Zugzwang • zugzwang • zugzwang • zugzwang • dragtvång • ッーク，ソワング・ごコ」と

Figure 2a．From Enciklopedija Šahovskih Završnica， 1993.
vrlo dobar potez－очень хороший ход • a very good move－ein sehr guter Zug e très bon coup • muy buena jugada • buona mossa • ett bra drag • 好 手 • i •
odličan potez－отличньй ход • an excellent move • ein ausgezeichneter Zug • excellent coup •

slab potez－слабый ход • a mistake e ein schwacher Zug • coup faible • mala jugada－mossa debole • ett dảligt drag • 疑 問 手－Lava－．
gruba gres̆ka－грубая оитибка • a blunder • ein grober Fehler • erreur grave • grave error • grave errore－ett grovt fel－悪 手－1－
potez zaslužuje pažnju－ход заслуживаюций внимания－a move deserving attention ein beachtenswerter Zug－coup qui mérite l’attention • jugada que merece atención－mossa degna

sumnjiv potez • сомнитсльньй ход • a dubious move－ein Zug von zweifelhaftem Wert • coup de valeur douteuse－jugada de dudoso valor－mossa dubbia－ett tvivelaktigt drag •

sa idejom • с ицесй • with the idea • mit der Idee • avec l＇idée • con idea • con l’idea • med idén •姐いは…… • •
jedini potez • сдинственный ход • only move • der cinzig spiclbare Zug • le seul coup • unica jugada • unica mossa • enda draget • 絶 対 手 • الـen
bolje je • лyчшe • better is • besser ist • meilleur est • es mejor • è meglio • bättre är •


홈 业 管 全 句

dijagonala • диагональ • diagonal • Diagonale • diagonale • diagonal • diagonal • diagonal •

centar • центр • centre • Zentrum • centre • centro • centro • centrum • 中
kraljevo krilo－королевский фланг • king＇s side－Königsflügel • aile－roi • flanco de rey • lato

damino krilo－ферзевый фланг－queen＇s side－Damenflügel－aile－dame－flanco de dama－

slaba tačka＊слабый пункт • weak point • schwacher Punkt e point faible e punto débil e punto debole－svaghet • 弱 点 • • e e
za：ršnica • эндипиль • ending • Endspiel • finale • final • finale • slutspel • 脵 虎－ الـمرحـــه اللــهـا
lovački par－два слона－pair of bishops－Läuferpaar－paire de fous－pareja de alfíles－la coppia degli alfieri • löparpar •双ビショッブ •
raznobojnj lovci－pazноцвстныг слоны • bishops of opposite color e ungleichfarbige Läufer－ fous de couleurs opposées－alfiles de distinto color alfieri di colore diverso－lopare med olika färg • 異色だショッブ・• فـلان
istobojni lovei－одноцветные слоны－bishops of the same color • gleichfarbige Läufer－fous de même couleur－alfiles del mismo color－alfieri di colore uguale－löpare med samma färg－闰色ビショ ；プ・ •
vezani pešaci－связаннье пепки • united pawns－verbundene Bauern ：pions liés • peones unidos • pedonj uniti • garderade bönder • 連ボーン •
razdvojeni pešaci－изолированньle ıпшки • separated pawns • isolierte Bauern－pions isolés •

udvojeni pešaci－сдвоенныг пепки－double pawns－Doppelbauern－pions doublés－peones dobles • pedoni doppi • dubbel bönder • 重ボーン，•

Figure 2b．From Enciklopedija Šahovskih Završnica， 1993.
§ slobodan pes̆ak－проходная пешка • passed pawn－Freibauer • pion passé • peón pasado • pedone libero•fribonde•失ったボー・・ーコロード
$>$ prednost u broju pešaka－преимущество в числл пешек • advantage in number of pawns－im Bauernmehrbesitz •avantage quantitatif en pions • ventaja en el número de peones • vantaggio

$\oplus \quad$ vreme • врсмя • time • Zeit • temps • tiempo • tempo • tid • 時間切追 • الوِّ

## 多 背 管 宽 気

7／113，48／241．．．Šahovski informator • Шахматный информатор－Chess Informant－Schach－ －informator－Informateur d＇échecs • Informador ajedrecistico • Informatore scacchistico－ Schack－informator • fェス新靿卷／h •

A 30，B 17 ，С $92 \ldots$ Enciklopedija šahovskih otvaranja－Энцихлопедия шахматных дебютов • Ency－ clopaedia of Chess Openings－Enzyklopädie der Schacheröffnungen－Encyclopédie des ouvertures d＇échecs－Enciclopedia de aperturas de ajedrez－Enciclopedia delle aper－ ture negli scacchi－Encyklopedi över spelöppningar i schack－右局大成－

\＆3／c3，発 3／d．．．Enciklopedija šahovskih završnica－Энциклопедия шахматных окончаний • Encyclopaedia of Chess Endings－Enzyklopädie der Schachendspicle • Encyclopédie des finales d＇échecs－Enciclopedia de finales de ajedrez－Enciclopedia dei finali negli scacchi－ Encyklopedi över slutspel i schack－収肩大成－．

N
novost－новинка • a novelty • einc Neuerung－nouveauté • novedad • un＇innovazione • nyhet •新 手－

## 

（ch）šampionat－чемиионат • championship－Meisterschaft • championnat • campeonato • campionato －mästerskap－世界チャンビナン戦•・ー．
（izt）meduzonski turnir • межзональный турнир • interzonal tournament • Interzonenturnier • tournoi interzonal • torneo interzonal • torneo interzonale • interzonturnering ・インター・ソーン・• －
（ct）turnir kandidata－турнир иретендснтов－candidates’ tournament－Kandidatenturnier－tournoi des candidats－torneo de candidatos • torneo dei candidati－kandidatturnering •指戦有决定戦 •
（m）meč • матч • match • Wettkampf • match • encuentro • match • match • マッチ・••رール
（ol）olimpijada • олимпиада • olympiad • Olympiade • olympiade • olimpiada • olimpiade • olympiad • ォリンビック・ •誛
corr．dopisna partija－партия по переписке－correspongence game－Fernpartie－partie par correspondance －partida por correspondencia－partita per corrispondenza－korrespondensparti－通后戦－据
RR primedba redakcije－примечание рсдакции • editorial comment－Anmerkung der Redaktion • remarque de la rédaction • nota de la redacción • nota redazionale • redaktionens anmärkning • 編集部評 •

R razni potezi－разные уоды • various moves • verschiedene Züge • différents coups • diferentes movidas －mosse varie－olika drag－愛 化 手－acgucele

L sa•c•with•mit•avec•con•con•med•以下の手脽となるもの • • •


－vidi • смотри • see • siehe • voir • ved • vedi • se • 蓼 照 • •
Figure 2c．From Enciklopedija Šahovskih Završnica， 1993.



Figure 3. From Enciklopedija Šahovskih Završnica, 1993.

| 包宫6／a |  | 1327－1328 | 365 |
| :---: | :---: | :---: | :---: |
| 绞㖵 6／b | 宽＋200 | 1329－1337 | 366 |
| 包暴 6／c |  | 1338－1361 | 368 |
| 是宾 $6 / \mathrm{d}$ |  | 1362－1367 | 373 |
| 问食 $6 / \mathrm{e}$ |  | 1368－1376 | 374 |
| 包寛6／f |  | 1377－1388 | 376 |
| 包意 6／g |  | 1389－1442 | 379 |
| 包含 6／h |  | 1443－1481 | 393 |
| 包鼻6／i |  | 1482－1499 | 403 |

## 葸 宽 6／a

## 1327．GRAAFLAND＊ <br> Tidskrift 1916



1328．BERGER
1922

1327.

蒬 $\mathrm{C} 3=$



3．a7 悤c4 4． a 8 显念 $\mathrm{d} 5=$
Figure 4．From Enciklopedija Šahovskih Završnica， 1993.

```
KLASIFIKACIJA • КЛАССИФИКАЦИЯ • CLASSIFICATION •
KLASSIFIZIERUNG - CLASSIFICATION • CLASIFICACION •
CLASSIFICAZIONE • KLASSIFIKATION • 大分䅡 • التصن_L_
```

| 氛萛 0 | $\begin{aligned} & 0: ~ \text { 高 } \\ & 0 \\ & 0 \end{aligned}$ | 12 |
| :---: | :---: | :---: |
| 包盛 1 |  | 42 |
| 包县 2 | 旬： 0 | 76 |
| 包蜑 |  | 182 |
| 完 4 |  | 220 |
| 包 5 |  | 306 |
| 勾宔 6 | 鼻：息， | 364 |
| 句鼻 7 | 含：悤， | 408 |
| 包景 8 |  <br>  <br>  | 470 |
| 勾箸9 | 119 盛 | 520 |

Figure 5．From Enciklopedija Šahovskih Završnica， 1993.
会 2
旬


Figure 6．From Enciklopedija Šahovskih Završnica， 1993.

## A. Administrative

1. Title

Proposal to encode symbols for chess notation
2. Requester's name

Michael Everson
3. Requester type (Member body/Liaison/Individual contribution)

Individual contribution.
4. Submission date

2017-01-26
5. Requester's reference (if applicable)
6. Choose one of the following:

6a. This is a complete proposal
Yes.
6b. More information will be provided later
No.

## B. Technical -- General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters)
No.
Proposed name of script
1 b . The proposal is for addition of character(s) to an existing block
Yes.
1b. Name of the existing block
Miscellaneous Symbols and Arrows.
2. Number of characters in proposal
9.
3. Proposed category (see section II, Character Categories)

Category A.
4a. Is a repertoire including character names provided?
Yes.
4b. If YES, are the names in accordance with the character naming guidelines in Annex L of ISO/IEC 10646-1: 2000?
Yes.
4c. Are the character shapes attached in a legible form suitable for review?
Yes.
5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?
Michael Everson.
5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:
Michael Everson, Fontographer.
6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?
No.
6 b . Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?
Yes.
7. 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. 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 http://www.unicode.org for such information on other scripts. Also see Unicode Character Database http://www.unicode.org/Public/UNIDATA/ UnicodeCharacterDatabase.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.
The characters should have the same properties as other symbols.

## C. Technical -- Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

No.
2a. 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.
2b. If YES, with whom?
Garth Wallace
2c. 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?

## Everyone.

4a. The context of use for the proposed characters (type of use; common or rare)
Common.
4b. Reference
5a. Are the proposed characters in current use by the user community?
No.
5b. If YES, where?
6a. After giving due considerations to the principles in Principles and Procedures document (a WG 2 standing document) must the proposed characters be entirely in the BMP?
No.
6b. If YES, is a rationale provided?
6c. If YES, reference
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?
No.
8b. If YES, is a rationale for its inclusion provided?
8c. If YES, reference
9 a . Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?
No.
9b. If YES, is a rationale for its inclusion provided?
9c. If YES, reference
10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?
No.
10b. If YES, is a rationale for its inclusion provided?
10c. If YES, reference
11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?
No.
11b. If YES, is a rationale for such use provided?
11c. If YES, reference
12a. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
No.
12b. If YES, reference
13a. Does the proposal contain characters with any special properties such as control function or similar semantics?
No.
13b. If YES, describe in detail (include attachment if necessary)
14a. Does the proposal contain any Ideographic compatibility character(s)?
No.
14b. If YES, is the equivalent corresponding unified ideographic character(s) identified?

