Unicode request for f and g with loop

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L2/25-27 *Proposal to encode 12 cossic characters* requested mathematical symbols used by Leibnitz. Two of these, provisionally placed at U+1DF91 ʟᴀᴛɪɴ sᴍᴀʟʟ ʟᴇᴛᴛᴇʀ ᴄ ᴡɪᴛʜ ʀɪɢʜᴛ ʟᴏᴏᴘ (cꝑ) and U+ 1DF93 ʟᴀᴛɪɴ sᴍᴀʟʟ ʟᴇᴛᴛᴇʀ ᴅ ʀᴏᴛᴜɴᴅᴀ ᴡɪᴛʜ ᴄʀᴏssɪɴɢ ʟᴏᴏᴘ (ꝺ), were used as musical symbols in the German organ tablature tradition, where they form a set with two others with the same loop: ꜰ and ɢ (SMuFL PUA U+EE06 *organGermanFisUpper* and U+EE08 *organGermanGisUpper*). Note also that the musical *d-is* and the equivalent cossic symbol are formally equivalent to U+20B0 ɢᴇʀᴍᴀɴ ᴘᴇɴɴʏ sɪɢɴ. Although in the font used here U+20B0 (₰) looks rather different from the musical note *d-is* in the figures, that is an effect of the hand used for writing it, namely the Kurrent hand traditionally used for the *Reichspfennig* sign. U+20B0 is also used for the *deleatur* (deletion) mark, which may have a non-Kurrent form ₰ that is closer to the cossic and musical symbols. Similarly, *f-is* and *g-is* have been used as florin and groschen signs.

Apel (1949: 26) provides the etymology of the loop: it is 'an abbreviation of the Latin syllable *-is* which was taken over by German terminology to indicate sharping (*cis* = C-sharp).' This is the medievalist diacritic ꝭ, U+A76D ʟᴀᴛɪɴ sᴍᴀʟʟ ʟᴇᴛᴛᴇʀ ɪs. As seen in the illustrations below, the "d rotunda" with loop is simply a *d* with loop, with the rounded *d* of the 16th- to 17th-century hand used for these manuscripts. Note also that the glyph for A76D found on the Unicode chart is not representative; the descender should probably be straight, and in many manuscripts turns to the right rather than to the left.

Regardless of whether the cossic symbols ⟨cꝑ ꝺ ʒꝭ⟩ are formally identified as the sequences cꝭ dꝭ ʒꝭ, it is not clear whether we should expect mathematical or musical software to handle a combining letter intended for encoding medieval manuscripts. The small closed set of characters involved should not be a problem as atomic characters. However, if the loop is identified as U+A76D, then *Do_Not_Emit* descriptions will be needed for any characters that are accepted.

Thanks to Denis Moyogo Jacquerye for clarifying the identity of this mark and for Figure 6.

Characters

ff   1DF97 LATIN SMALL LETTER F WITH LOOP.

gf   1DF98 LATIN SMALL LETTER G WITH LOOP.

Properties

1DF97;LATIN SMALL LETTER F WITH LOOP;Ll;0;L;;;;;N;;;;;

1DF98;LATIN SMALL LETTER G WITH LOOP;Ll;0;L;;;;;N;;;;;

DoNotEmit data

0063 A76D; 1DF92; Precomposed_Form # LATIN SMALL LETTER C, LATIN SMALL LETTER IS; LATIN SMALL LETTER C WITH RIGHT LOOP

0064 A76D; 1DF93; Precomposed_Form # LATIN SMALL LETTER D, LATIN SMALL LETTER IS; LATIN SMALL LETTER D ROTUNDA WITH CROSSING LOOP

0066 A76D; 1DF97; Precomposed_Form # LATIN SMALL LETTER F, LATIN SMALL LETTER IS; LATIN SMALL LETTER F WITH LOOP

0067 A76D; 1DF98; Precomposed_Form # LATIN SMALL LETTER G, LATIN SMALL LETTER IS; LATIN SMALL LETTER G WITH LOOP

A75B A76D; 1DF94; Precomposed_Form # LATIN SMALL LETTER R ROTUNDA, LATIN SMALL LETTER IS; LATIN SMALL LETTER R ROTUNDA WITH LOOP

References

Willi Apel (1953) *The Notation of Polyphonic Music: 900–1600.* 5th edition. Mediaeval Academy of America, Cambridge, Mass.

Alphonse Chassant (1884) *Dictionnaire des abréviations latines et francaises usitées dans les inscriptions lapidaires et métalliques, les manuscrits et les chartes du moyen âge.*

Christina Kwon (2020) *Keyboard Tablature as Performance Notation from Spanish and German Sources.* Master's thesis, Royal Conservatoire, The Hague. Chapter 2: The German Tablature.

Charts

The cossic characters c, d-rotunda and r-rotunda with loop are highlighted.

	1DF0	1DF1	1DF2	1DF3	1DF4	1DF5	1DF6	1DF7	1DF8	1DF9	1DFA	1DFB	1DFC	1DFD	1DFE	1DFF
0	ffj	ʞ	ʤ	ɢ	ᴀ	ɫ	ω	ɟ	Ꜳ	ç				ɣ	ʤ	ɩ
1	ꝑ	ħ	ʥ	ɣ	a	ⱴ	ɾ	ɉ	Ɛ	cſ				ꝑ	ʣ	ɲ
2	ɔ	ʤ	ƛ	ħ	ə	ⱴ	ʃh	ⱺ	ꝡ	ȿ				ƀ	ʃ	ɫ
3	ʞ	ꜩ	ƭ	ɸ	E	ꝏ	ƪh	ɵ	ꞥ	ȣ				đ	ʃ	ψ
4	ɫ	ŋ	tθ	q	ɛ	ɤ	ƪh	ꝏ	ꝗ	ꝥ				g	ʧ	ω
5	ꞎ	ʝ	ꝺ	ʀ	ɡ	y	wh	ω	ɭ	ß		˝	ɫ	ʧ	ɖ
6	ꭙ	ſ	ɭ	ʀ	ħ	ʔ	ʑ	℧	ç	ꝓ		ˏ	ɫ	ꝫ	ɧ
7	ɑ	ʧ	ɳ	ɾ	ʄ	ɹ	ʑ	ω	Ꭓ	ff		ˬ	ɫ	ꝫ	ŋ
8	ɬ	ʒ	ɣ	ʦ	Ʞ	ɔ	Ꜳ	ꜧ	x	gſ		ˏ	ꝿ	ᴅ	ʂ
9	ſ	ʥ	ʂ	ɥ	k	ü	ɑ	θ	ꝩ			ˊ	ɟ	ᴀ	ʐ
A	ꞁ	ꞷ	ʈ	ʆ	ᴍ	ɑ	ᴀ	Ʊ	ɚ			ˋ	ʊ	ᴇ	ʗ
B	ꝼ	ꝓ	ʤ	ß	ᴍ	ᴄh	ᴀ	ɥ	ꜿ			ˇ	ᴡ	ɩ	ƙ
C	ꝭ	ʧ	ʧ	θ	ɯ	ɞ	Ɛ	ᴡ	ƀ			ˆ	ɧ	ɩ	ƀ
D	ꝭ	ꞇ	ʤ	ꭓ	ɴ	ie	ɛ	ɯ	đ			꞊	ꞃ	ꞃ	ƌ
E	ꞔ	ʂ	ʣ	ɥ	ᴨ	ɔi	ɫ	Ʊ	g			ᴏ	ꝏ	ꞃ	ꞇ
F	ꞔ	ꝺ	ʥ	ꞷ	ꞃ	ᴏu	ɟ	ʋ	ɭ			̈	φ	ꝗ	ꞇ

                                                     3

Figures

The indication of chromatic tones in the letter-notation is a feature of special interest and of considerable importance for the study of accidentals in the period under consideration. Whereas the B-natural and the B-flat are distinguished by different letters (h and b), all the other chromatic tones are indicated by a little loop or scroll attached to the letter, as follows:

Figure 1. Apel (1953: 24). c♯ (c♯) and ♮ (d♯) [blue] were accepted as part of the Leibnitz cossic proposal. ff (f♯) and gf (g♯) [red] are requested here.

Figure 2. Kwon (2020). Order of notes, from *Orgel oder Instrument Tabulaturbuch*. The sequence is c, c♯, d, ♮, e, f, ff, g, gf, a, b, h. B is modern B-flat, h modern B-natural. The requested characters are outlined in red.
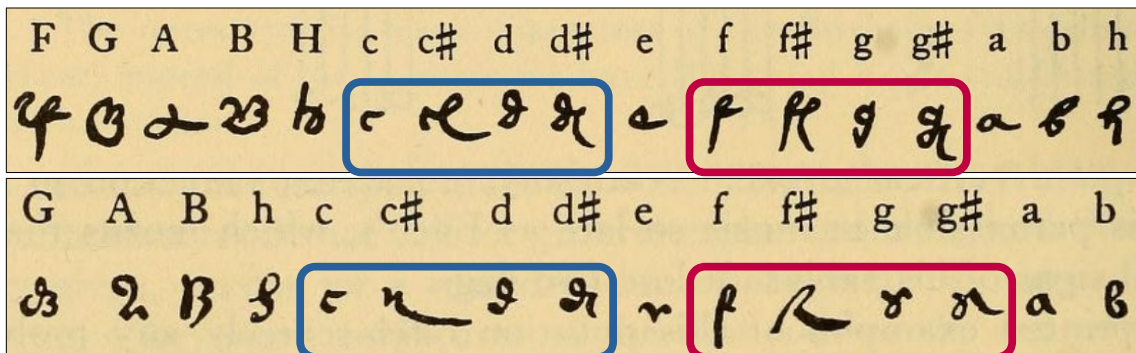
Figure 3. Apel (1953: 30, 34). The same in two more hands.
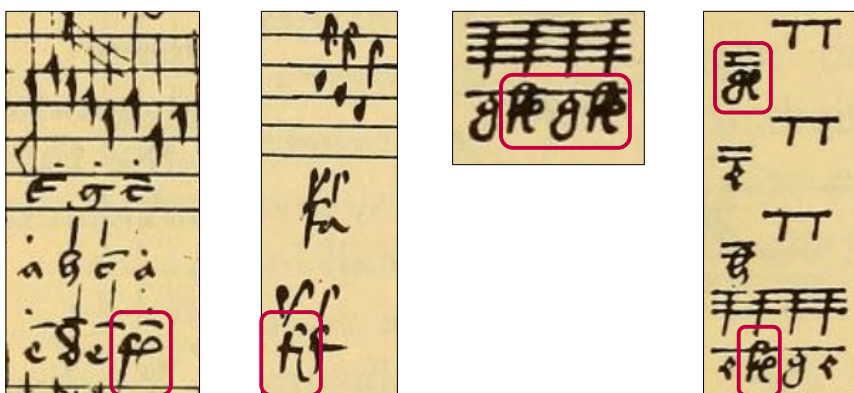
4

Figure 4. Apel (1953: 25, 31, 35). F-loop and g-loop (also d-loop) in *Buxheimer Orgelbuch*, MS St Gall, and *Tabulatur Buch von allerhand*.
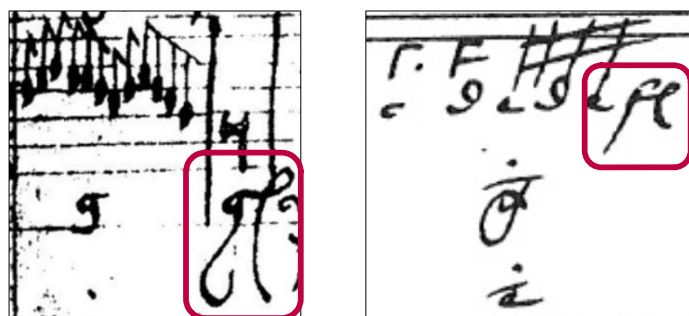

Figure 5. Kwon (2020). G and g-loop in Wernigerode, f-loop in Kotter's tablature of 1513.
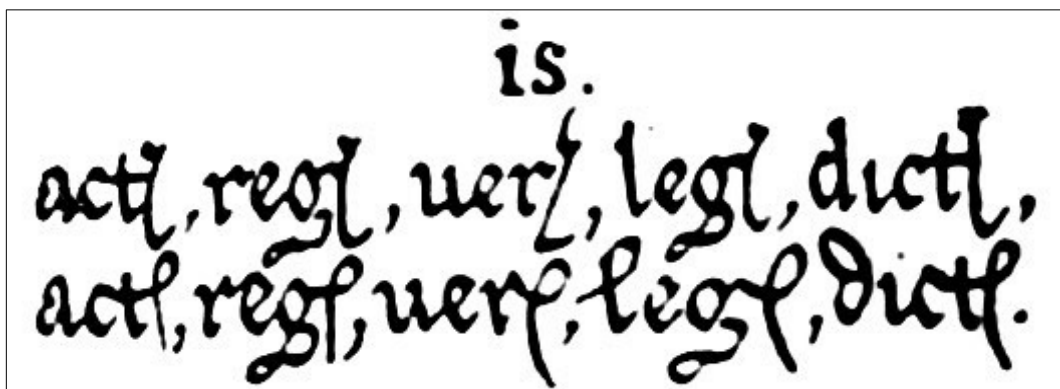

Figure 6. Chassant ([1884: xlvi](#)). Illustrations of two forms of the combining letter ꝯ *-is* on *t*, *g* and *r* in the words actꝯ, regꝯ, verꝯ, legꝯ, dictꝯ. Regardless of musical and mathematical usage, these should be encoded with U+A76D ꝯ *-is*.

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[1]
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:** *F and g with loop*
2. Requester's name: *Gavin Jared and Kirk Miller*
3. Requester type (Member body/Liaison/Individual contribution): *individual*
4. Submission date: *2025 November 15*
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: *Latin Extended-G*
2. Number of characters in proposal: *2*
3. Proposed category (select one from below - see section 2.2 of P&P document):
   A-Contemporary   x   B.1-Specialized (small collection)   B.2-Specialized (large collection)
   C-Major extinct   D-Attested extinct   E-Minor extinct
   F-Archaic Hieroglyphic or Ideographic   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 (Gentium Release)
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 (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.

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[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)

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? _ _ _ _ _ _ _ *Authors are members of the user community.* _ _ _ _
        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) _ _ *music* _ _
    Reference: _____

5. Are the proposed characters in current use by the user community? _ _ _ *yes* _ _ _
    If YES, where? Reference: _____

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)? _ _ _ *no* _ _ _

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? _ _ *no* _
        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: _____