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Proposal to change the bidi class of five bidi-mirrored, non-neutral characters

This note wishes to draw the UTC's attention to five characters whose combined bidi-mirrored and bidi-class property values are inconsistent with those of other, similar characters.

As of Unicode 5.1, there are 543 characters that have the property Bidi_Mirrored = Y (True). Of these, 538 characters have the property Bidi_Class = ON (Other_Neutral). The remaining five have the property Bidi_Class = L (Left_To_Right). These five characters are the following:

1D6DB MATHEMATICAL BOLD PARTIAL DIFFERENTIAL
1D715 MATHEMATICAL ITALIC PARTIAL DIFFERENTIAL
1D74F MATHEMATICAL BOLD ITALIC PARTIAL DIFFERENTIAL
1D789 MATHEMATICAL SANS-SERIF BOLD PARTIAL DIFFERENTIAL
1D7C3 MATHEMATICAL SANS-SERIF BOLD ITALIC PARTIAL DIFFERENTIAL

In contrast, the character 2202 PARTIAL DIFFERENTIAL, which is also a bidi-mirrored character, has Bidi_Class = ON.

Consider a text string of the form

$u = \partial U / \partial X$

where lowercase denotes bidi class L and uppercase denotes bidi class R, and ∂ represents one of the five symbols listed above. In an RTL context, the visual result would be $X \partial / U \partial = u$ if ∂ had bidi class ON, whereas the result is (incorrectly) $X \partial / U u = \partial$ if ∂ has bidi class L. (Adequate mirroring of the ∂ symbols applies to either or both cases.)

Furthermore, since the five mathematical symbols are compatibility equivalent to U+2202, it would also seem logical for them to share the same bidi class ON as U+2202. Note also that all six characters have a General Category value of Sm and not Ll.

Therefore, it is proposed that the bidi class of 1D6DB, 1D715, 1D74F, 1D789, and 1D7C3 be changed to ON.

Submitted by
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