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Braille2000 "Cued Math" Feature

Overview

The Cued Math feature of Braille2000 is designed to support the blind math author. Because a math transcription uses a mix of contracted English braille and Nemeth notations, the braille is usually ambiguous in its interpretation. This is not usually a problem for a human reader, but it is unclear how a translation algorithm is to handle things. The Cued Math feature provides a way to give explicit disambiguation cues. (This feature is for use with standard Nemeth transcriptions.)

Background

The Braille2000 Interpreter function is a braille-to-print tool with the unique ability to generate typographically correct math notation from Nemeth-code braille. It generally does a good job, except for the built-in fundamental ambiguities of the code. For the braille transcriber using the Interpreter feature for proofreading, one can select one of two interpretations: Nemeth Level 1 and Nemeth Level 2. You can also toggle between these two interpretations, deciding as you proofread which is appropriate for the context. The Cued Math feature provides an explicit control for the interpretation of math braille.

Intended Use

Cued Math is intended for use by the blind math author who composes math materials on a refreshable braille note-taking device such as the BrailleNote. This procedure ultimately renders a BRF type of braille file which is then opened by Braille2000 and the derived interpretation can then be ink printed.

The explicit Nemeth Level 2 cue is the two-cell pattern (456)(135), i.e., $\begin{smallmatrix} \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \end{smallmatrix} \begin{smallmatrix} \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \end{smallmatrix} .$

The explicit Nemeth Level 1 cue is the two-cell pattern (456)(246), i.e., $\begin{smallmatrix} \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \end{smallmatrix} \begin{smallmatrix} \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \end{smallmatrix} .$

These cues do not generate any print output. In general, Nemeth level 2 is designed for math formulas whereas Nemeth level 1 is designed for narrative. These cues should be included in the prepared braille input text.

After the BRF file is opened, the Interpretation should be set for "Cued Math". There are several ways to do this. One is to right-button click the Interpret button and then set the Primary interpretation to "Cued Math".

Packaging

The Cued Math interpretation mechanism is not currently distributed with Braille2000. To install it, the file CuedMath.BTR must be copied to the Braille2000 software folder, normally at C:\Program Files\CASC\BRL2000. Close Braille2000 before installing the file.