

The Knuth–Plass algorithm is a line-breaking algorithm designed for use in Donald Knuth’s typesetting program TeX. It integrates the problems of text justification and hyphenation into a single algorithm by using a discrete dynamic programming method to minimize a loss function that attempts to quantify the aesthetic qualities desired in the finished output.

Making hyphenation decisions follows naturally from the algorithm, but the choice of possible hyphenation points within words, and optionally their preference weighting, must be performed first, and that information inserted into the text stream in advance. Knuth and Plass’ original algorithm does not include page breaking, but may be modified to interface with a pagination algorithm, such as the algorithm designed by Plass in his PhD thesis.