



WIKIPEDIA  
The Free Encyclopedia

[Main page](#)  
[Contents](#)  
[Featured content](#)  
[Current events](#)  
[Random article](#)  
[Donate to Wikipedia](#)  
[Wikipedia store](#)

Interaction

[Help](#)  
[About Wikipedia](#)  
[Community portal](#)  
[Recent changes](#)  
[Contact page](#)

Tools

[What links here](#)  
[Related changes](#)  
[Upload file](#)  
[Special pages](#)  
[Permanent link](#)  
[Page information](#)  
[Wikidata item](#)  
[Cite this page](#)

Print/export

[Create a book](#)  
[Download as PDF](#)  
[Printable version](#)

Languages

 [Add links](#)


[Create account](#) [Log in](#)

Article [Talk](#)

[Read](#)

[Edit](#)

[More](#) ▾



# Nicholl–Lee–Nicholl

From Wikipedia, the free encyclopedia

The **Nicholl–Lee–Nicholl** algorithm is a fast [line clipping algorithm](#) that reduces the chances of clipping a single line segment multiple times, as may happen in the [Cohen–Sutherland](#) algorithm.

## Description [\[edit\]](#)

Using the Nicholl–Lee–Nicholl algorithm, the area around the clipping window is divided into a number of different areas, depending on the position of the initial point of the line to be clipped. This initial point should be in three predetermined areas; thus the line may have to be translated and/or rotated to bring it into the desired region. The line segment may then be re-translated and/or re-rotated to bring it to the original position. After that, straight line segments are drawn from the line end point, passing through the corners of the clipping window. These areas are then designated as L, LT, LB, or TR, depending on the location of the initial point. Then the other end point of the line is checked against these areas. If a line starts in the L area and finishes in the LT area then the algorithm concludes that the line should be clipped at *xw* (max). Thus the number of clipping points is reduced to one, compared to other algorithms that may require two or more clipping

## See also [\[edit\]](#)

Algorithms used for the same purpose:

- [Liang–Barsky algorithm](#)
- [Cyrus–Beck algorithm](#)
- [Fast clipping](#)

## References [\[edit\]](#)

- Tina M. Nicholl, D. T. Lee, Robin A. Nicholl (1987). "An efficient new algorithm for 2-D line clipping: Its development and analysis" [↗](#). *SIGGRAPH '87*: 253–262.



*This [computer graphics](#)–related article is a **stub**. You can help Wikipedia by [expanding it](#).*

Categories: [Clipping \(computer graphics\)](#) | [Computer graphics stubs](#)

This page was last modified on 3 April 2014, at 04:19.

Text is available under the [Creative Commons Attribution-ShareAlike License](#); additional terms may apply. By using this site, you agree to the [Terms of Use](#) and [Privacy Policy](#). Wikipedia® is a registered trademark of the [Wikimedia Foundation, Inc.](#), a non-profit organization.

[Privacy policy](#) [About Wikipedia](#) [Disclaimers](#) [Contact Wikipedia](#) [Developers](#) [Mobile view](#)

