

Package ‘RDP’

October 14, 2021

Title The Ramer-Douglas-Peucker Algorithm

Version 0.2.0

Description Pretty fast implementation of the Ramer-Douglas-Peucker algorithm for reducing the number of points on a 2D curve. Urs Ramer (1972), ``An iterative procedure for the polygonal approximation of plane curves" <[doi:10.1016/S0146-664X\(72\)80017-0](https://doi.org/10.1016/S0146-664X(72)80017-0)>. David H. Douglas and Thomas K. Peucker (1973), ``Algorithms for the Reduction of the Number of Points Required to Represent a Digitized Line or its Caricature" <[doi:10.3138/FM57-6770-U75U-7727](https://doi.org/10.3138/FM57-6770-U75U-7727)>.

License GPL-3

URL <https://github.com/robertdj/RDP>

Encoding UTF-8

RoxygenNote 7.1.1

LinkingTo Rcpp

Imports Rcpp

Suggests testthat, withr, zeallot

NeedsCompilation yes

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Repository CRAN

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RDP-package

RDP *package*

Description

Implementation of the **Ramer-Douglas-Peucker algorithm**.

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References

Urs Ramer (1972), "An iterative procedure for the polygonal approximation of plane curves". *Computer Graphics and Image Processing* **1**, 244–256. doi: [10.1016/S0146664X\(72\)800170](https://doi.org/10.1016/S0146664X(72)800170).

David H. Douglas and Thomas K. Peucker (1973), "Algorithms for the Reduction of the Number of Points Required to Represent a Digitized Line or its Caricature". *Cartographica* **10**, 112–122. doi: [10.3138/FM576770U75U7727](https://doi.org/10.3138/FM576770U75U7727).

See Also

Useful links:

- <https://github.com/robertdj/RDP>

RamerDouglasPeucker

Ramer-Douglas-Peucker

Description

The **Ramer-Douglas-Peucker algorithm** for reducing the number of points on a curve.

Usage

```
RamerDouglasPeucker(x, y, epsilon)
```

Arguments

x	The x values of the curve as a vector.
y	The y values of the curve as a vector.
epsilon	The threshold for filtering outliers from the simplified curve.

Details

If there are no more than two points it does not make sense to simplify. In this case the input is returned without further checks of x and y.

Value

A data.frame with x and y values of the simplified curve.

Examples

```
RDP::RamerDouglasPeucker(x = c(0, 1, 3, 5), y = c(2, 1, 0, 1), epsilon = 0.5)
```

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