

# Package ‘RDP’

March 17, 2022

**Title** The Ramer-Douglas-Peucker Algorithm

**Version** 0.2.3

**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** 7.1.2

**LinkingTo** Rcpp

**Imports** Rcpp

**Suggests** testthat, withr, zeallot

**NeedsCompilation** yes

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**Repository** CRAN

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RDP-package

RDP *package*

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### Description

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

### Author(s)

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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>

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RamerDouglasPeucker

*Ramer-Douglas-Peucker*

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### 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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