

# Package ‘distinctiveness’

October 15, 2023

**Type** Package

**Title** Distinctiveness Centrality

**Version** 1.0.1

**Description** Calculates Distinctiveness Centrality in social networks.  
For formulas and descriptions, see Fronzetti Colladon and Naldi (2020) <[doi:10.1371/journal.pone.0233276](https://doi.org/10.1371/journal.pone.0233276)>.

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**URL** <https://github.com/iandrea/c/distinctiveness-R>,  
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0233276>

**Depends** R (>= 3.5.0)

**Imports** igraph

**Encoding** UTF-8

**RoxygenNote** 7.2.3

**NeedsCompilation** no

**Author** Andrea Fronzetti Colladon [aut, cre],  
Luis Maas [aut]

**Maintainer** Andrea Fronzetti Colladon <[andrea.fronzeticolladon@unipg.it](mailto:andrea.fronzeticolladon@unipg.it)>

**Repository** CRAN

**Date/Publication** 2023-10-15 15:10:02 UTC

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distinctiveness	<i>The main function; oversees the calculations of Distinctiveness Centrality</i>
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### Description

The main function; oversees the calculations of Distinctiveness Centrality

### Usage

```
distinctiveness(
  G,
  alpha = 1,
  normalize = FALSE,
  measures = c("D1", "D2", "D3", "D4", "D5")
)
```

### Arguments

G	the given graph
alpha	the given exponent for penalizing connections to highly connected nodes
normalize	when TRUE, the function normalizes output metrics to allow for comparison with other graphs. Defaults to FALSE
measures	the measures of Distinctiveness Centrality to be computed

### Value

a data frame containing the specified calculated measures of Distinctiveness Centrality for the given graph

### Examples

```
g <- igraph::erdos.renyi.game(20, 50, type = "gnm", directed = FALSE)
plot(g)
distinctiveness(g)
distinctiveness(g, alpha = list(2, 1, 3, 2, 4), measures = c("D1", "D3", "D4"))

g_dir <- igraph::erdos.renyi.game(20, 50, type = "gnm", directed = TRUE)
plot(g_dir)
distinctiveness(g_dir)
distinctiveness(g_dir, alpha = 2, normalize = TRUE, measures = c("D2", "D5"))
```

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