degree

Degree and Degree Distribution for Vertices

The degree of a vertex is its most basic structural property, the number of its adjacent edges.

Usage

```
degree(
  graph,
  v = V(graph),
  mode = c("all", "out", "in", "total"),
  loops = TRUE,
  normalized = FALSE
)

degree_distribution(graph, cumulative = FALSE, ...)
```

Arguments

graph The graph to analyse.

v The IDs of the vertices for which the degree will be calculated.

mode A character string, 'out' for out-degree, 'in' for in-degree, or 'total' for the sum of the two. For undirected graphs, this argument is ignored. 'all' is a synonym for 'total'.

loops A logical value for whether the loop edges are included in the count.

normalized A logical scalar for whether to normalise the degree. If TRUE, then the result is divided by $n - 1$, where n is the number of vertices in the graph.

cumulative A logical value for whether the cumulative degree distribution is to be calculated.

... Additional arguments to pass to `degree` (e.g., 'mode') may be useful, but also 'v' and 'loops' make sense.

Value

For `degree`, a numeric vector of the length supplied by the argument 'v'.

For `degree_distribution`, a numeric vector of the same length as the maximum degree plus 1. The first element is the relative frequency for zero-degree vertices, the second for vertices of degree 1, etc.

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Examples

```
g <- make_ring(10)
degree(g)
g2 <- sample_gnp(1000, 10/1000)
degree_distribution(g2)
```