Package 'oaqc'

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Title Computation of the Orbit-Aware Quad Census

Version 2.0.0

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Description Implements the efficient algorithm by Ortmann and Brandes (2017) <doi:10.1007/s41109-017-0027-2> to compute the orbit-aware frequency distribution of induced and non-induced quads, i.e. subgraphs of size four. Given an edge matrix, data frame, or a graph object (e.g., 'igraph'), the orbit-aware counts are computed respective each of the edges and nodes.

URL https://github.com/schochastics/oaqc

BugReports https://github.com/schochastics/oaqc/issues

Depends R (>= 3.4)

Suggests igraph, knitr, rmarkdown, testthat (>= 3.0.0)

License GPL (>= 3)

Encoding UTF-8

NeedsCompilation yes

RoxygenNote 7.3.2

VignetteBuilder knitr

Config/testthat/edition 3

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Repository CRAN

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annotate_result *Annotates the igraph object with orbit labels.*

Description

Annotates the igraph object with orbit labels.

Usage

```
annotate_result(graph, orbits, non_ind_freq)
```

Arguments

graph	Unmodified input graph.
orbits	List with n_orbits, e_orbits matrices.
non_ind_freq	A flag indicating whether non-induced frequencies have to be written or not.

Value

orbits if the input is not an igraph, the annotated igraph instead.

as.edge_list *Coerce graph input.*

Description

Coerce graph input.

Usage

```
as.edge_list(graph)
```

Arguments

graph	A matrix, data.frame or graph object.

Value

Edge list matrix.

oaqc *Orbit-aware Quad Census computation*

Description

Implements the efficient algorithm by Ortmann and Brandes (2017) doi:10.1007/s4110901700272 to compute the orbit-aware frequency distribution of induced and non-induced quads, i.e. subgraphs of size four. Given an edge matrix, data frame, or a graph object (e.g., 'igraph'), the orbit-aware counts are computed respective each of the edges and nodes.

Usage

```
oaqc(graph, non_ind_freq = F, file = "")
```

Arguments

`graph`	A matrix, data.frame or graph object.
`non_ind_freq`	A flag indicating whether non-induced frequencies have to be returned or not.
`file`	Name (and location) of the file to be written.

Value

orbit-aware quad census on a node and edge level. Consult `vignette('oaqc')` to see the correspondence between orbit and quad.

Author(s)

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Examples

```
k4 <- data.frame(
    source = c(0, 0, 0, 1, 1, 2),
    target = c(1, 2, 3, 2, 3, 3)
)

k4orbits <- oaqc(k4, non_ind_freq = TRUE)
print(k4orbits)
```

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