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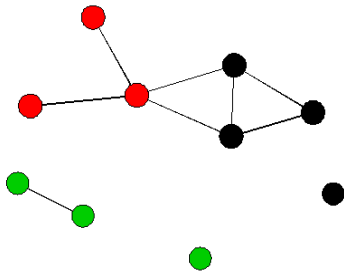
# ERGM terms

Some commonly used terms

How to find out more about terms in `ergm`

How to code up new terms

# ergm terms commonly used in EpiModel

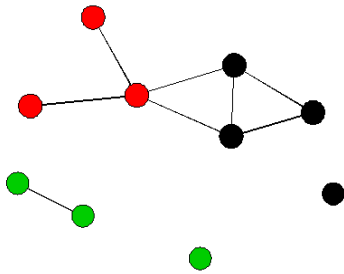


undirected network of 10 nodes, including nodal attribute "color", with values:

*1=black, 2=red, 3=green*

Degree related terms	Calculation of network statistic	Unit for counting	Statistic Value(s)
<code>~edges</code>	# of edges	edges	8
<code>~nodefactor("color")</code>	Sum of degrees for nodes of each color	nodes/edges*	[8,] 6, 2
<code>~nodefactor("color", levels= -2)</code>	Sum of degrees for nodes of each color, using level 2 as the reference category	nodes/edges*	8, [6,] 2
<code>~degree(0)</code>	# of nodes of degree 0	nodes	2
<code>~degree(2:5)</code>	# of nodes of degrees 2, 3, 4, 5 each	nodes	1, 2, 1, 0
<code>~concurrent</code>	# of nodes of at least degree 2	nodes	4

# ergm terms commonly used in EpiModel

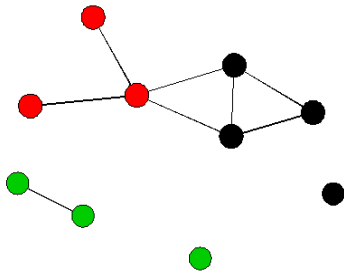


undirected network of 10 nodes, including nodal attribute "color", with values:

*1=black, 2=red, 3=green*

Mixing related terms (on color)	Calculation of network statistic	Unit	Statistic Value(s)
<code>~nodematch("color")</code>	# of edges between nodes of same color	edges	6
<code>~nodematch("color", diff = TRUE)</code>	# of edges between nodes of same color, for each color	edges	3, 2, 1
<code>~nodemix("color", base=1)</code>	# of edges between nodes of each color combo	edges	[3,] 2, 2, 0, 0, 1
<code>absdiff("color")</code> Note: this uses the values 1, 2 and 3	Sum of the difference in values of node color for every tie	edges	2

# Common triad terms for ergms



undirected network of 10 nodes, including nodal attribute “color”, with values:

*1=black, 2=red, 3=green*

Triad related terms	Calculation of network statistic	Unit	Statistic Value(s)
$\sim$ triangle	# of triangles (beware!)	triangles	2
$\sim$ gwesp(0)	# of edges in at least one triangle	edges	5
$\sim$ gwesp( $\infty$ )	# of edges in triangles total (=3 * # triangles)	triangles	6

# These are just examples

- There are over 100 built-in terms in the ergm package.
  - They are documented, and have an interactive search utility
  - In the R console window type either of the commands below:
    - > `? "ergm-terms"`
    - > `vignette('ergm-term-crossRef')`
  - You can also access the vignette online [here](#)
- And there is a package for building your own terms
  - [ergm.userterms](#) on Runiverse, not CRAN
  - With a [tutorial](#)