CLUSTER

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NAME

cluster - find clusters in a graph and augment the graph with this information.

SYNOPSIS

cluster [**-v?**] [**-C**k] [**-c**k] [**-o** *outfile*] [*files*]

DESCRIPTION

cluster takes as input a graph in DOT format, finds node clusters and augments the graph with this information. The clusters are specified by the "cluster" attribute attached to nodes; cluster values are non-negative integers. **cluster** attempts to maximize the modularity of the clustering. If the edge attribute "weight" is defined, this will be used in computing the clustering.

OPTIONS

The following options are supported:

-Ck specifies a targeted number of clusters that should be generated. The specified number k is only a suggestion and may not be realisable. If k == 0, the default, the number of clusters that approximately optimizes the modularity is returned.

-ck specifies clustering method. If k == 0, the default, modularity clustering will be used. If k == 1 modularity quality will be used.

-o*outfile* Specifies that output should go into the file *outfile*. By default, *stdout* is used.

-v Verbose mode.

-? Prints the usage and exits.

EXAMPLES

Applying **cluster** to the following graph,

```
graph {
    1--2 [weight=10.]
    2--3 [weight=1]
    3--4 [weight=10.]
    4--5 [weight=10]
    5--6 [weight=10]
    3--6 [weight=0.1]
    4--6 [weight=10.]
   }
```

gives

```
graph {
      node [cluster="-1"];
      1 [cluster=1];
      2 [cluster=1];
      3 [cluster=2];
      4 [cluster=2];
      5 [cluster=2];
      6 [cluster=2];
      1 -- 2 [weight="10."];
      2 -- 3 [weight=1];
      3 -- 4 [weight="10."];
      4 -- 5 [weight=10];
      5 -- 6 [weight=10];
      3 -- 6 [weight="0.1"];
      4 -- 6 [weight="10."];
   }
```

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SEE ALSO

gvmap(1)

Blondel, V.D., Guillaume, J.L., Lambiotte, R., Lefebvre, E.: Fast unfolding of communities in large networks. Journal of Statistical Mechanics: Theory and Experiment (2008), P10008.