NAME

dijkstra − single-source distance filter

SYNOPSIS

dijkstra [**−adp?**] [*sourcenode file*]

DESCRIPTION

dijkstra reads a stream of graphs and for each computes the distance of every node from *sourcenode.* Edge length is given in the *len* attribute, and the default is 1. The *dist* attribute of every node is set to its distance from *sourcenode.* If the **-p** flag is used, the *prev* attribute of each node reachable from *sourcenode* is set to the name of the previous node on a shortest path. The graph attribute *maxdist* is set to the maximum *dist* of all nodes in the graph.

If the **-d** flag is used, the graph is treated as directed and only forward edges are used.

By default, if the graph is disconnected, the *dist* attribute of nodes unreachable from *sourcenode* are left untouched, and *maxdist* is set to the maximum of any previous value and the largest distance recorded in this run. On the other hand, if the **-a** flag is used, the *dist* attribute of an unreachable node is assigned a very large value, and *maxdist* records the maximum distance found in the component containing *sourcenode.*

Any number of *sourcenode file* pairs may be given. If the last *file* is missing, **stdin** is used. All output is written to **stdout**.

In a typical application, *dist* and *maxdist* can drive a downstream calculation of color or some other attribute.

SEE ALSO

gvpr(1), gvcolor(1), libgraph(3)