

### How distance vector routing works

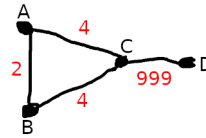
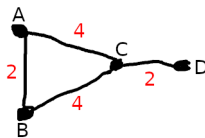
Routers send their distance tables to other routers. If a router finds a shorter path to some other router according to Bellman-Ford's algorithm, it adds that path to its routing table. If a router updates its tables, then it sends that new table to its neighboring routers.

### How you tested the algorithms

We tested the algorithms by running the simulation with different amounts of nodes, and manually checking the result.

### Some cases in which poisoned reverse may fail and a solution to this problem

If a network has 4 nodes, A, B, C, and D. Connected as the first figure:



If the link between C and D changes as in figure 2, then A would try to route to D via B, and B would try to route to D via A which would cause a loop. This can be solved with the Routing Information Protocol which prevents loops by limiting the number of “hops” allowed from a source to a destination [1].

[1] [https://en.wikipedia.org/wiki/Routing\\_information\\_protocol](https://en.wikipedia.org/wiki/Routing_information_protocol)