Abstract

We develop an algorithm which reduces the arbitrary instance of the network flow problem to a simple path disjoint network in polynomial time. Then the flow in each path is taken as the minimum of the arc capacities of that path from where the flow in each arc can be easily determined. The polynomial time algorithm can determine any instance of the network flow problem faster than the previously existing algorithms. An example has been given to elucidate the process. At the end a MATLAB program based on this algorithm has been given.

References

- U. Janjarassuk and J. T. Linderoth, Reformulation and sampling to solve a stochastic network interdiction problem, Networks 52 (2008), pp. 120–132.

Index Terms

Computer Science

Algorithms
Keywords
Maximum Flow Network Problem (mfnp)  Simple Path Disjoint Network  Polynomial Time Algorithm