

Max-Min Flow

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1 Overview Of Flow Network

1. Introduction to Flow Graph, Maximum Flow and other terminologies.
2. Ford- Fulkerson Algorithm for computation of maximum flow and its limitations.
3. Edmond-Karp Algorithm & its implementation
4. Solving a related problem.

2 Network

A network is a directed graph G with vertex set V and edge set E combine with a function C which maps all edges (say e) to some non-negative integer (or real numbers) which is called the capacity of edge e .

3 Flow Network

Additionally in the network if we label 2 nodes / vertices as **source** and **sink** this is called a flow network.

4 Flow

A function F which maps all edges (say e) to some non-negative integer (or real numbers) which is called the flow through edge e . The function has to fulfill 2 conditions.

1. Flow of an edge can not exceed the capacity of that edge.
 $f(e) \leq c(e)$
2. For all vertex u (except **source** and **sink**), the sum of ***in-flow*** should be equal to sum of ***out-flow***

For source and sink, outFlow of source = inFlow of sink

5 Example

