

Min Cost!

The Minimum Cost Flow Problem

u_{ij} = capacity of arc (i,j) .

c_{ij} = unit cost of shipping flow from node i to node j on (i,j) .

x_{ij} = amount shipped on arc (i,j)

Minimize $\sum_{(i,j) \in A} c_{ij} x_{ij}$

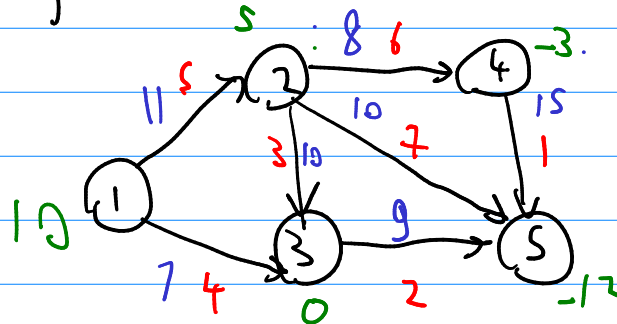
$\sum_j x_{ij} - \sum_k x_{ki} = b_i$ for all $i \in N$.

and $0 \leq x_{ij} \leq u_{ij}$ for all $(i,j) \in A$.

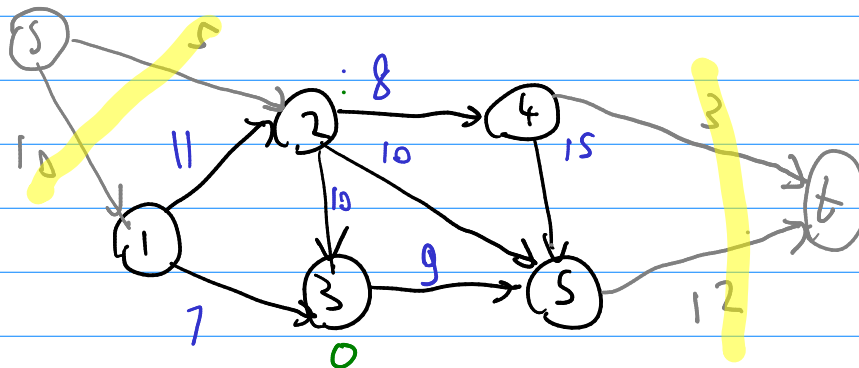
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- Check if problem is ill-posed.
- Find a feasible flow

e.g.



- capacity
- cost
- supply / demand



If we do max flow we expect arcs marked by yellow to be at capacity