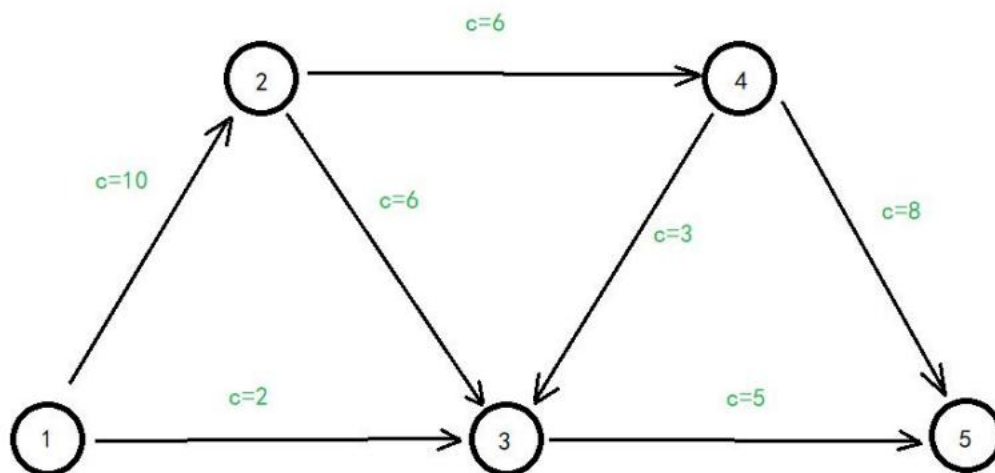


Design and Analysis of Algorithms

1. flow network, capacity, flow, saturated edge, residual

network, augmenting path (解释流网络的基本概念)

2. 给出了一个初始流网络，写出最大 s-t (1-5) 流，并给出计算过程



3. 对于可行流的任意一个割，割的流量=可行流的流量

4. 最大流-最小割定理的证明

The following three conditions are equivalent for any flow f :

- i. There exists a cut (A, B) such that $cap(A, B) = val(f)$.
- ii. f is a max flow.
- iii. There is no augmenting path with respect to f .

5. 解释“归约”的概念并证明顶点覆盖归约到集合覆盖