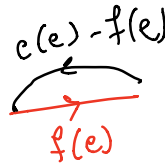
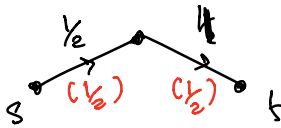
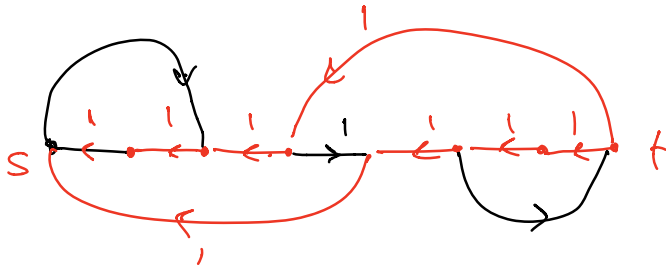
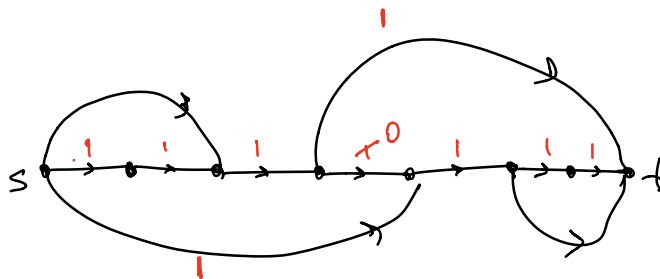


If all capacities are integer then there exists a max-flow when $f(e) = \text{integer}$ for all e .



cap = 1.



max flow \leq max # edge dis paths

Output of FF ALG has value f . We can assume f is integral and 0/1, BC all capacities are 1.

Start from s , follow a path of 1-edges. Each time entering a vertex v , there must be an 1-edge leaving v , BC of flow conservation. So it ends only at t . Remove this path. We get a new flow of value $k-1$. So, recurse.