Linxi Li   26.1-5

$$\max \sum_{v \in V} f(s, v) - \sum_{v \in V} f(v, s)$$

$$\begin{cases} \sum_{v \in V} f(v, u) = \sum_{v \in V} f(u, v) \\ f(u, v) \leq C(u, v) \end{cases}$$

26-4

I refered to one of the solution on CLRS

(a) ∃ a minimum cut ∅∅ doesn't the lie on (u, v), then the maximum flow can't be increased. ∄ otherwise, we can perform Ford-Fulkerson algorithm. and the flow will increase the by 1. Find augmenting Path, inorder to find V path, we can use BFS.

it's $O(V+E)$

(b) find a path from s to t which contains (u, v) wiry BFS in $O(V+E)$. This will decrease the total flow by 1.