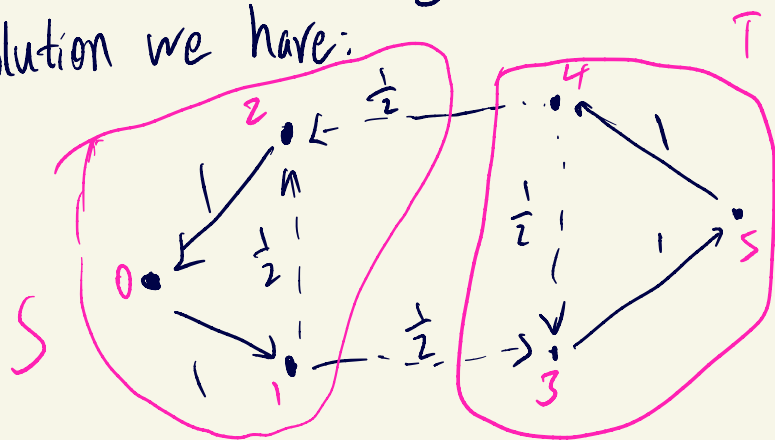


Reason why duplicate for fractional β and β :

Let's take a very simple example. Suppose in one solution we have:



In our algorithm we are fixing point 0 as the source and solving a max flow problem taking as sink $t = \{1, \dots, 5\}$. We notice that, for all points in $\{3, 4, 5\}$, the solution is $\frac{1}{2}$. And if we try to solve the dual minimum-cut problem for each of these points, we can indeed generating the exact same cut (S, T) as shown in the graph three times.