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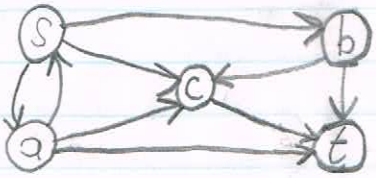
# T5 MATH 3802

Tutorial:

1

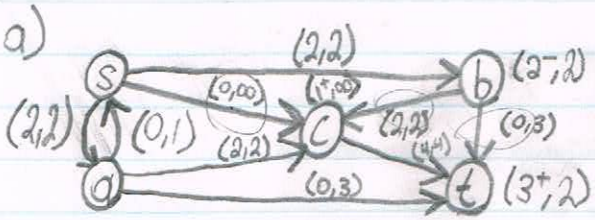



$u = [2\ 1\ 2\ \infty\ 2\ 3\ 2\ 3\ 4]^T$
↑ capacity of arc $e_i$

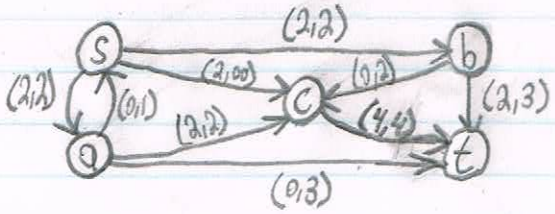
$u(\delta^+(S)) = e_3 + e_4 + e_6 = 2+4+3 = 9$

2

a)




(#⁺ → room we have
#⁻ ← to add)



Problems:

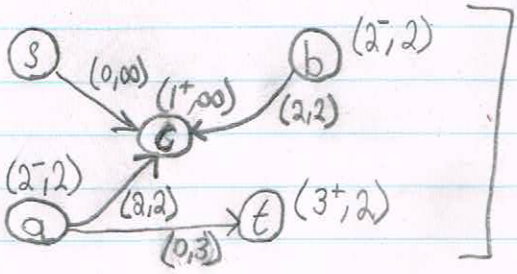
①

$$u(\delta^+(\{s,c\})) = \overbrace{e_1 + e_3 + e_4}^{\text{leaving } S} = 2+2+4 = 8$$

②

a)

thus, use: $e_4 + e_7 + e_5 + e_6$ as new path including $e_5$




New flow

b)

$u(\delta^+(S)) = e_3 + e_1 = 2+2 = 4$

$u(\delta^-(S)) = e_2 + e_4 + e_6 + e_8 = 4+0+0+0 = 4$

thus, $u(\delta^+(S)) - u(\delta^-(S)) = 0$