Homework 12

Zhicong Sun
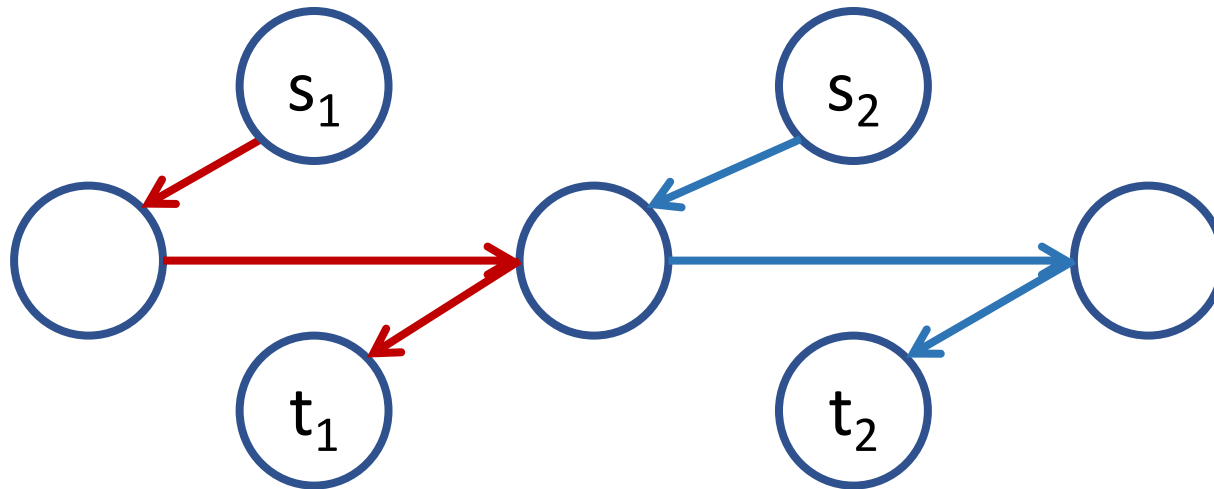
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Exercise 10-1

- Create an example where the optimal solution is always obtained by the greedy algorithm independent of the selection order of the shortest paths.
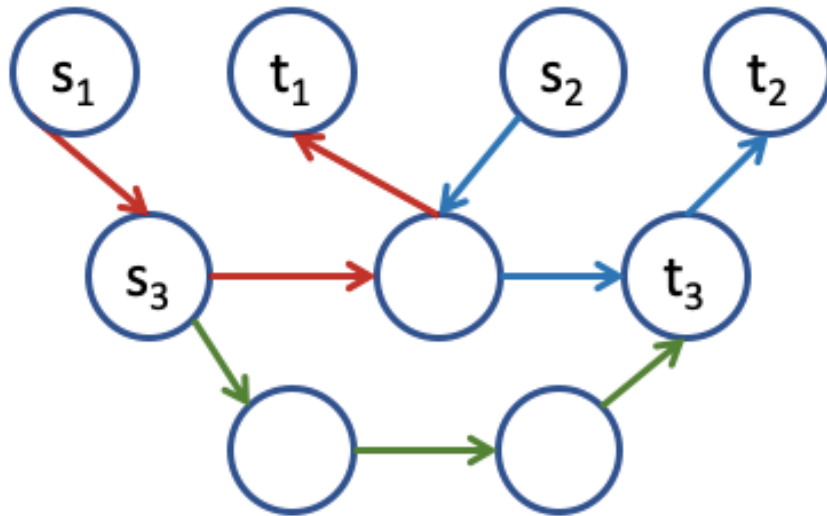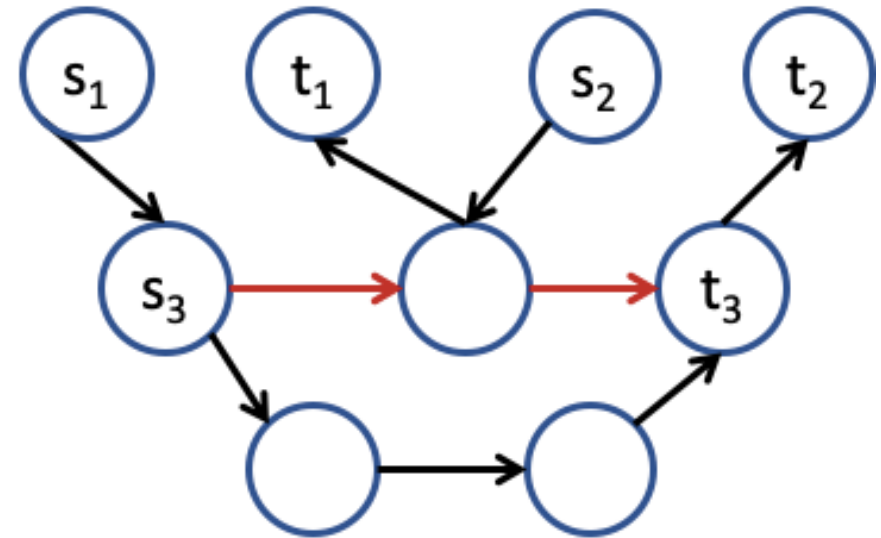

$$|I| = |I^*| = 2$$

Try to create another example where $|I^*| \geq \sqrt{m}\,|I|$ **always holds independent of the selection order of the shortest paths**.
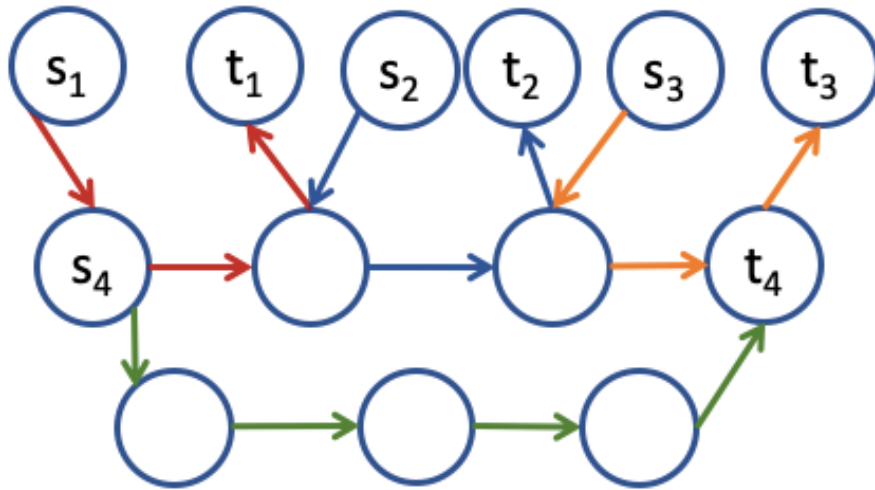

$$|I^*| = 3$$

$$|I| = 1$$

$$m = 9, \sqrt{m} = 3$$
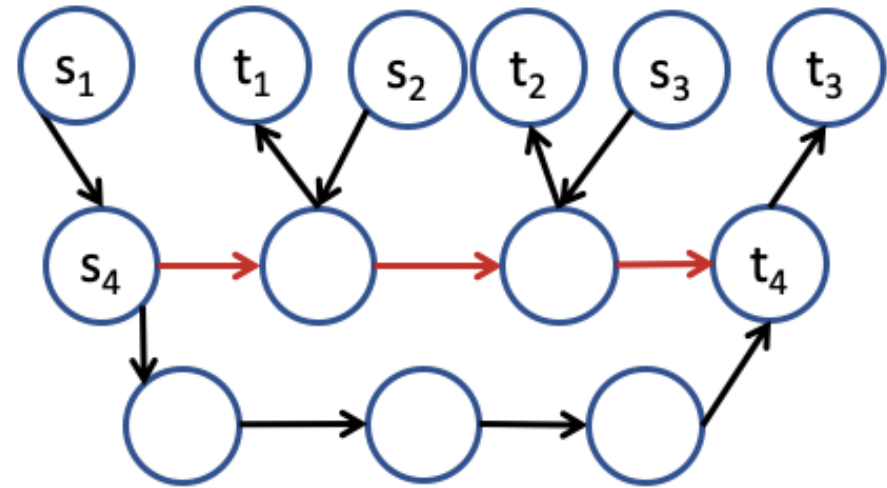
$$|I^*| \geq \sqrt{m}\,|I|$$

Exercise 10-1

Try to create another example where $|I^*| > \sqrt{m}\,|I|$ always holds independent of the selection order of the shortest paths.

$$|I^*| = 4 \qquad\qquad |I| = 1$$

$$m = 13, \sqrt{m} = 3.6$$

$$|I^*| > \sqrt{m}\,|I|$$

Thanks!
Please contact me with email if you have any problem

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