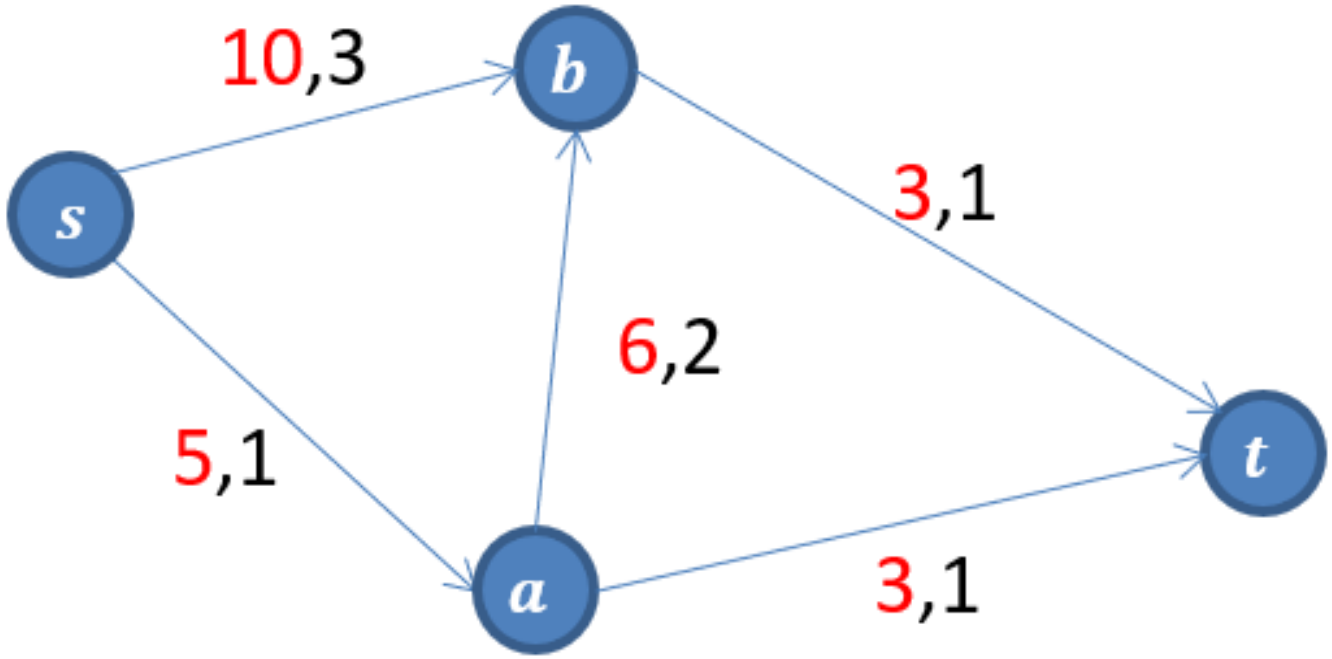
Dynamic Network Flows

#EX6: Emergency Evacuation Plan

1) For the following graph: find the maximum flow from s to t using the *scipy.linprog package*.
2) <u>Optional:</u> select and implement an algorithm designed for this particular kind of problems and compare the results obtained in 1).



References: **Capacity**, **Time**

Transshipment problem

#EX7

A technology company has 3 production plants where it produces 2 chip models. It has 2 stock plants and 3 sale points that requires different quantities of each model. The costs, production and demand related data:

Transport Costs

Plant\Stock	A1	A2	Stock\Sale Point	A1	A2
1	100	200	1	100	200
2	150	150	2	150	150
3	200	100	3	200	100

Production and Demand

Plant	Production	Sale Point	Demand
1	20/30	1	30/40
2	10/40	2	10/20
3	30/10	3	20/20

1) Find the optimum distribution for the period using the scipy.linprog package.

Project scheduling

#EX8

1) Find the critical path and the expected duration of the following project activity network, using the scipy.linprog package.
2) Optional: select and implement an algorithm designed for this particular kind of problems and compare the results obtained in 1).
3) Optional: for a JIT network, could you implement any of the specific algorithms that exist for solving these kind of problems? Why?

Task	Duration	Predecessor
a	14	
b	3	
c	3	a, b
d	7	a
e	4	d
f	10	c, e