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# Exercise No. 3 <br> <br> Energy Informatics 

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Winter 2015

## Exercise 4

Consider the following graph.


1. Find the shortest path $p$ between $s$ and $t$ (with respect to the hop distance).
2. Compute the maximum flow on $p$ and find two augmenting paths. What is the resulting flow?
3. Find the minimum cut between $s$ and $t$ and compare the result to the maximum flow.

## Exercise 5

$k$-connectivity

1. Is the following graph 2 -connected? Is it 3-connected?

2. Find two nodes such that the maximum flow is equal to the connectivity number. Construct the maximum flow.
3. Is it always possible to find such a pair of nodes?
4. Is the graph 3-edge-connected?
