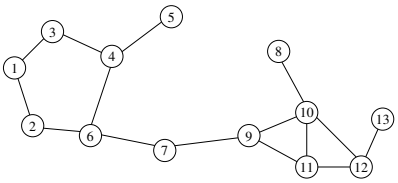


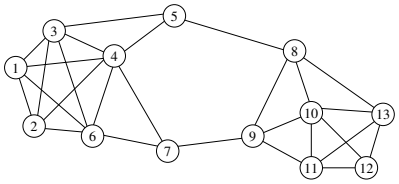


# Problem 1

a) Compute a minimal size multipoint relay set for nodes 4 and 11 in each of the two networks below.

b) In the OLSR routing protocol, each node reports only link state information for links to nodes which identify it as a multipoint relay (its multipoint selectors). In which of the two networks above is OLSR likely to have better performance *and why*?

# Problem 2

In lecture 1, we discussed some criteria for assessing routing protocols. We also discussed basic differences between on-demand (AODV) and proactive (OLSR) routing.

In each of the situations below, which protocol, AODV or OLSR, is likely to have better performance (low overhead and high success delivering messages)? In some cases, there is not one right answer, so be sure to *explain your answer*.

1. the network is very dense – each node has many neighbors
2. the network is sparse – each node has only a few neighbors, so the paths are very long (e.g. a network along a motorway)
3. the network is large (e.g. a university campus), but nodes usually send messages to nearby nodes (e.g. in the same building)
4. nodes are very mobile and routes change often

(If you feel adventurous, you are welcome to compare any other routing protocols presented in the routing survey paper[1].)

[1]Note: The link to the routing survey paper has been updated. The original link did not point to the paper that I intended to recommend.