The goal of this tutorial is to review the notions of network, triadic closure, embeddedness and regions.

**Exercise 1: Breadth-First Search**

How many links does the network in Figure 1 have?

Is this network directed or undirected?

Is this network connected?

In what order nodes get visited during a breadth-first search starting at node $B$ if neighbors are picked in the lexicographical order of their label?

![Figure 1: A network of 7 nodes](image)

*Duration: 5 min*

**Exercise 2: Triadic closure**

What is the clustering coefficient of node $A$ in the graph represented in Figure 2(a)?

What are the nodes that violate the triadic closure property in the graph of Figure 2(b)? Explain why?

*Duration: 10 min*

**Exercise 3: Embeddedness vs. betweenness**

What are the embeddedness and betweenness of edges $\langle A, B \rangle$ and $\langle D, F \rangle$ in the graph of Figure 3?

Is $\langle A, B \rangle$ a bridge or a local bridge? What is its span? Explain.

*Duration: 15 min*
Exercise 4: Partitioning

What are the regions at level 2 obtained with the Girvan-Newman method applied to the graph in Figure 3? Explain.

Duration: 20 min