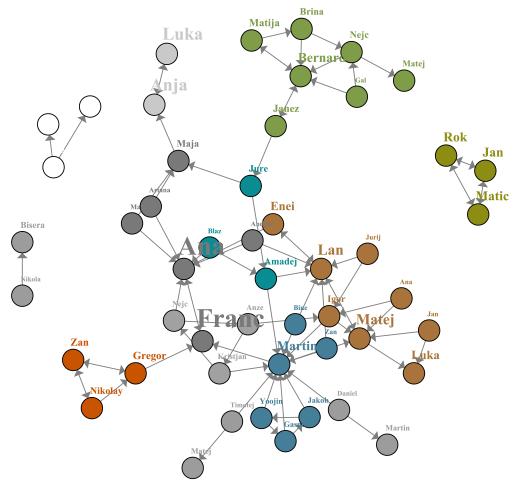
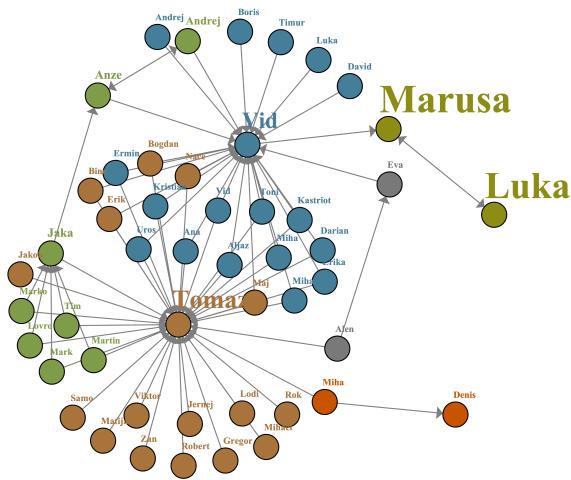


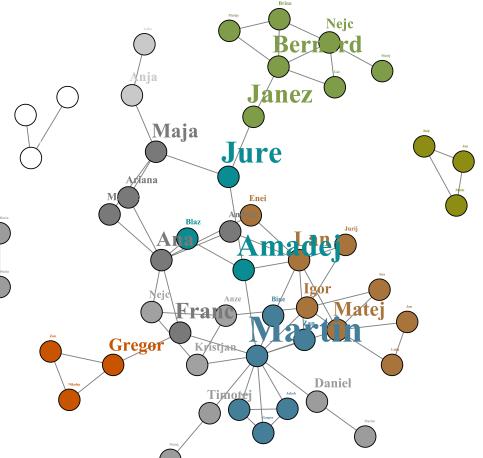
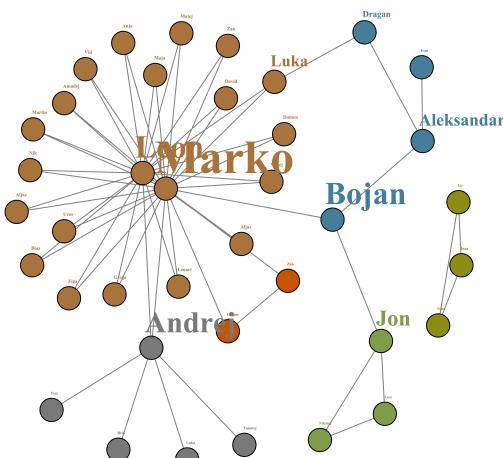
# PageRank & betweenness centrality challenges

Nominate up to two classmates by stating their student identifiers on [eUcilia](#) before May 24th at 11:59pm. This will create zero, one or two directed links from you to them. All student nominations will be collected into a social network.

1. First, the network will be reduced to a **simple directed graph**. Then, **PageRank score** will be computed for each node in the network (with damping factor  $\alpha = 0.85$ ). Students with the highest PageRank score will be awarded 10% of the final course grade (all students together).



2. Next, the network will be reduced to a **simple undirected graph**. Then, **betweenness centrality** will be computed for each node in the network. Students with the highest betweenness centrality will be awarded 10% of the final course grade (all students together).



The students will be allowed to **distribute 10% however they please** (e.g., taking all the points, (un)evenly distributing the points between selected classmates or other). Students must make their decision before the first exam.