Please upload your solutions to Ilias. Deadline: 10th November 23.55 pm

Exercise 2

1) You can find four different Cytoscape files with visualisations of the same network in the zipped directory. You can find more information on the network here: http://konect.uni-koblenz.de/networks/moreno_lesmis

    a. Load these files (with Cytoscape) and compare the visualisations with each other.
    b. What do you think needs to be improved to provide a better visualisation? Please generate also the improved visualisation, report the different steps and provide the Cytoscape file or png image.
    c. Compute different network properties (Tools -> Network Analyzer -> Network Analysis), report the result and describe what you can derive from these properties. Use at least three of them.

2) Given the relation between following nodes and edges:
   Nodes: P1 = Peter, P2 = Sarah, P3 = Lena, P4 = Daniel, P5 = Hanna, P6 = Marc, P7 = Alex, P8 = Michael, P9 = Laura, P10 = Tess

   Edges:
   P1 → P4
   P2 → P1, P2 → P4
   P3 → P2
   P4 → P10
   P5 → P4, P5 → P1
   P6 → P7, P6→ P8, P6 → P9
   P7 → P8
   P10 → P4, P10 → P6, P10 → P9

    a. Visualise the nodes and edges as network with Vanted.
    b. Which layout and style do you use to get a good visualisation of this network? Report the different steps and provide a png image.
    c. Calculate the following metrics and describe what you can derive from these properties:
        i. In degree of each node
        ii. Out degree of each node

3) Download and test the OGDF library (https://ogdf.uos.de/). Draw a layout for a network of your choice (at least 40 nodes). Please provide the network and png file.

10 points