

#### Homework 1:

1. Take an empty graph with only nodes.
2. Add edges to the graph randomly using Erdős–Rényi model till you get a complete graph
3. Calculate the Freeman's formula for each step (after adding each edge)
4. Plot the results

#### Homework 2:

1. Solve the Questions from the slide "Network Centrality".

#### Homework 3:

1. Open the Drosophila Network already provided
2. Check the various properties of the network.
  - a. Is the network scale free
  - b. Can you find the important players of the network?

#### Homework 4:

1. Open the drosophila network
2. Run the MCODE algorithm
3. Run the MCL algorithm
  - a. Compare the results
  - b. Are there some filtering options
  - c. Play with the settings and observe the influence.