PR3a: Centrality insights

Construct a table with four columns, each containing a list of (node, score) pairs for H_i*, B_i, $\overline{k_i}$ and E_i. Let the scores be with three decimal places. Sort the nodes in decreasing order of importance for each centrality and take the first 10 nodes. Analyse and elaborate the following:

- Are there any disagreements between centrality metrics on which nodes are among the most important ones?
- Do centrality metrics agree on the order of importance of nodes?
- Which node is the most important one?

*Implement the harmonic centrality as defined on slide 14 (do not *directly* use nx.harmonic_centrality as it is defined differently)

PR3a: Centrality insights

Visualise four graphs of your network, each of which has the size of nodes proportional to the scores of degree, H_i*, B_i, and E_i. For each graph, the ten most important nodes and the ten least important nodes should have different colours than the rest of the graph. What kind of differences are observable? Discuss the insights.

Using a scatterplot, illustrate the relationship between H_i and $\overline{k_i}$, B_i and $\overline{k_i}$, and E_i and $\overline{k_i}$. Analyse and elaborate the following:

- Is there a correlation between metrics within each pair?
- Are there any significant differences?