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Exercise Sheet 4 for
Advanced Algorithms, Summer 2025

Hand In: *Until 2025-06-11 18:00, on ILIAS.*

Problem 1
20 points

Prove or disprove: p-CLIQUE is W[1]-complete.

Problem 2
40 points

We define the problem REGULARINDEPENDENTSET problem as the subset of the INDEPENDENTSET problem on regular graphs, i.e., graphs where all vertices have the same degree.

Prove that p-INDEPENDENTSET $\leq_{fpt}$ p-REGULARINDEPENDENTSET.