Parameterized Algorithms WS 2021

Prof. Dr. P. Rossmanith

Dr. E. Burjons, M. Gehnen, H. Lotze, D. Mock



Date: November 29th, 2021

Exercise Sheet 06

Task T18

Show that Dominating Set \leq_{FPT} Hitting Set.

Task T19

Show that CLIQUE \leq_{FPT} INDEPENDENT SET on regular graphs.

Task T20

Is there a parameterized reduction from Vertex Cover to Independent Set?

Task T21

Provide an FPT-reduction from Independent Set to Short Turing Machine Acceptance (STMA).

Task H13 (5 credits)

Show that HITTING Set \leq_{FPT} Dominating Set.

Task H14 (5 credits)

Provide an FPT-reduction from DOMINATING SET to SHORT MULTI-TAPE TURING MACHINE ACCEPTANCE.