

Exercise Sheet 7

COMP6741: Parameterized and Exact Computation

2016, Semester 2

1. A *cluster graph* is a graph where every connected component is a complete graph.

CLUSTER EDITING
 Input: Graph $G = (V, E)$, integer k
 Parameter: k
 Question: Is it possible to edit (add or delete) at most k edges of G so that it becomes a cluster graph?



Recall that G is a cluster graph iff G contains no induced P_3 (path with 3 vertices) and has a kernel with $O(k^2)$ vertices.

- (a) Design an algorithm for CLUSTER EDITING with running time $3^k \cdot k^{O(1)} + n^{O(1)}$.