

- The instructions are the same as in Homework-0, 1, 2.

There are 1 questions for a total of 10 points.

1. (10 points) Design an $O(\text{poly}(n) \cdot 2^{n/4})$ -time backtracking algorithm for the maximum independent set problem for graphs with bounded degree 3 (these are graphs where all vertices have degree at most 3). Give running time analysis and proof of correctness.