

HW #4

Homework exercises should be done individually (You should write the solution by yourself). Solutions must be prepared in python programming language and submitted electronically before **11.59 pm on Sunday, January 3**. No credit will be given to solutions obtained verbatim from the Internet or other sources. **To get full credit for each question, you need to provide a brief explanation of your codes and the efficiency analysis with comments.**

2. Given a weighted undirected graph G where all the weights are fixed as 1, devise an algorithm that outputs a minimum spanning tree of G . Since all the weights are just 1, the algorithm is assumed to take an $n \times n$ adjacency matrix as input. The running time of your algorithm should be better than the running time of Kruskal and Prim.