1) The Portuguese coinage includes coins for 1, 2.5, 5, 10, 20, 25 and 50 escudos. However prices are always for an integer number of escudos. Prove or give a counterexample: when an unlimited supply of coins of each denomination is available, the greedy algorithm always finds an optimal solution.

2) A graph may have several minimum spanning trees. Is this the case for the graph presented in class and shown in the notes at bottom of page 91.

3) What can you say about the time required by Kruskal's algorithm if instead of providing a list of edges, the user supplies a matrix of distances, leaving to the algorithm the job of working out which edges exist?