

METCS566 - HW#5

- 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?