EL9343 Homework 6

(Due Dec 15th, 2020)

No late assignments accepted

All problem/exercise numbers are for the third edition of CLRS text book

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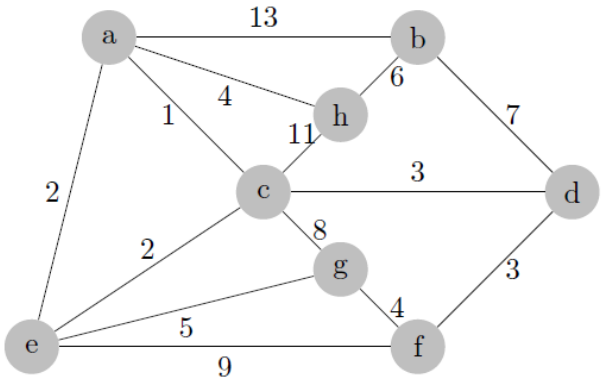
1. Exercise 24.1-1, reverse the order of relaxing edges in the figure, i.e., in each pass, start with edge (s, y), finish with edge (t, x).
2. Exercise 24.2-1, using vertex t as the source.
3. Exercise 24.3-1, only use t as the source
4. Exercise 24.3-6
5. Exercise 24.3-8
6. Exercise 25.2-1
7. Exercise 25.2-7



8. For the graph above:
   (a) What is the cost of a *minimum spanning tree*?
   (b) How many *minimum spanning* trees does it have?
   (c) Run Kruskal's algorithm on the graph above. In what order are the edges added to the MTS? For the first three edges in this sequence, give a cut that justifies its addition.

9. For the graph above, run Prim's algorithm. Start at node **a**. Whenever there is a choice of nodes, always use alphabetic ordering. Show the order the vertices are removed from *Q*, and draw the minimum spanning tree *T* for the graph.