

HW7 - Kruskal's Algorithm

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5) Kruskal's Algorithm

Find the Minimum Spanning Tree using Kruskal's Algorithm (see pictures below)

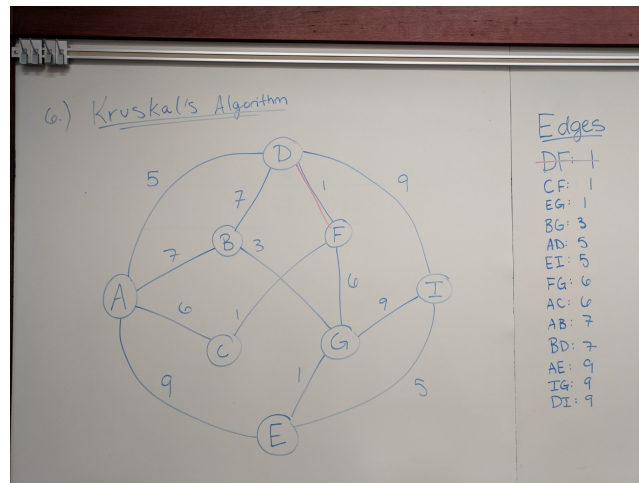


Figure 1: List all edges in non-decreasing order. Begin building the MST by starting with the top of the list, mark the edge, and cross it off the list. (Mark DF and cross off list).

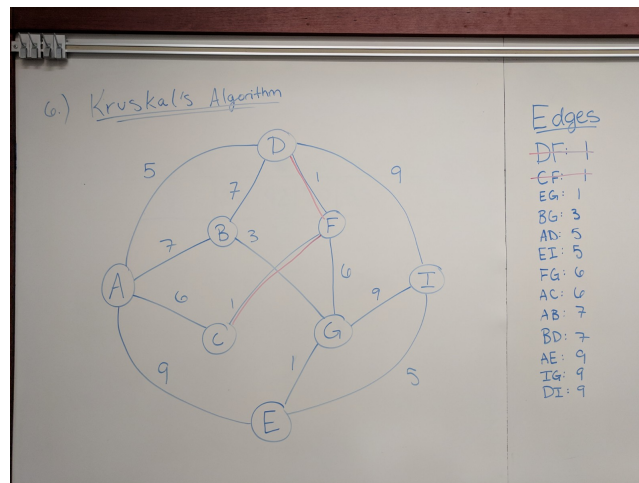


Figure 2: Mark CF and cross off list.

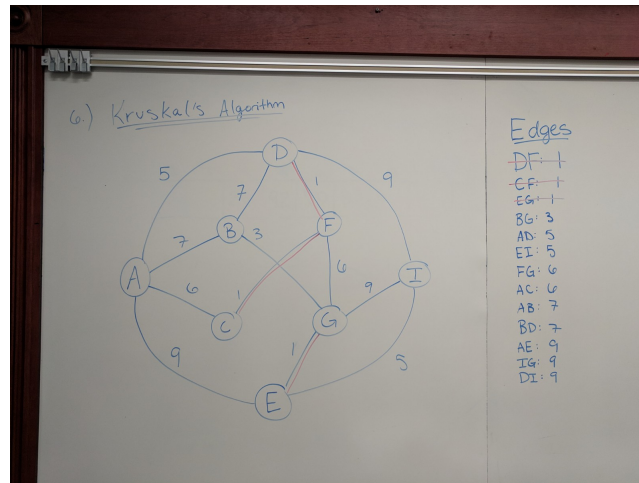


Figure 3: Mark EG and cross off list.

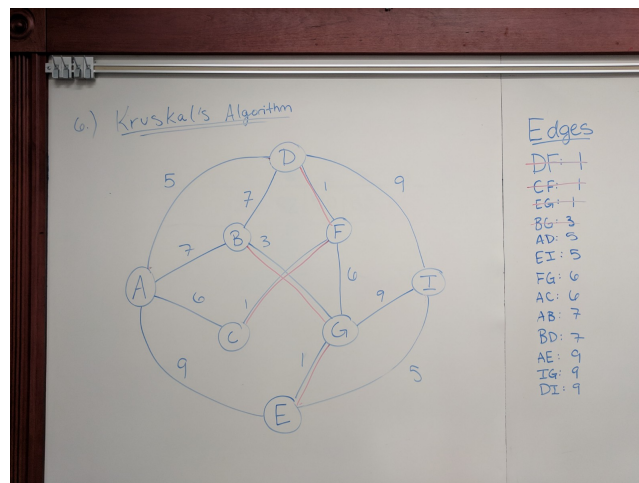


Figure 4: Mark BG and cross off list.

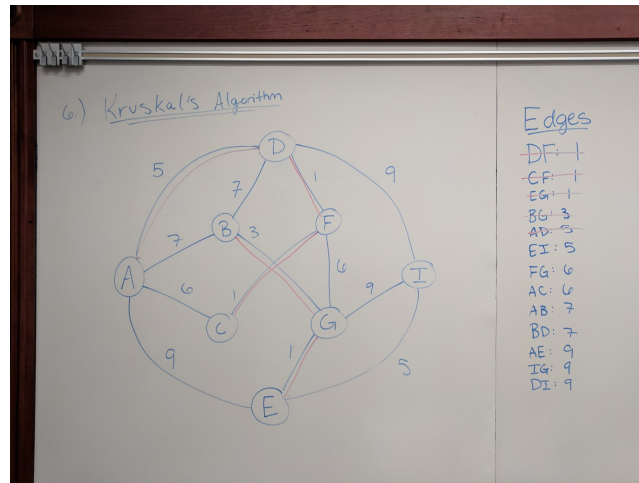


Figure 5: Mark AD and cross off list.

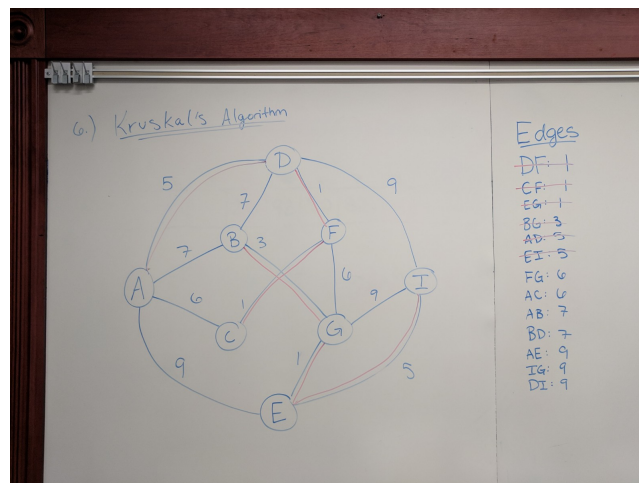


Figure 6: Mark EI and cross off list.

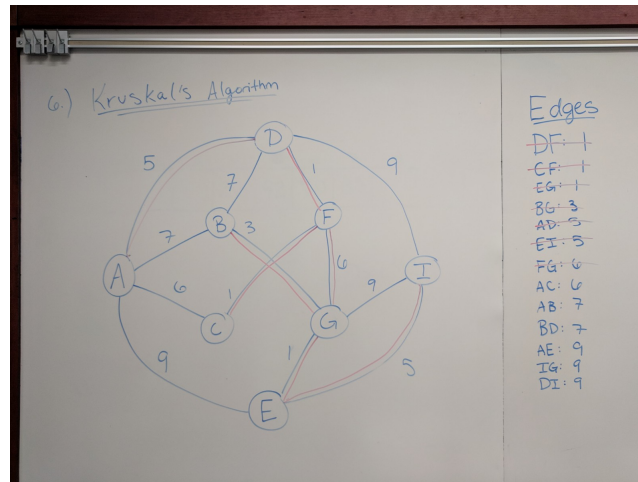


Figure 7: Mark FG and cross off list.

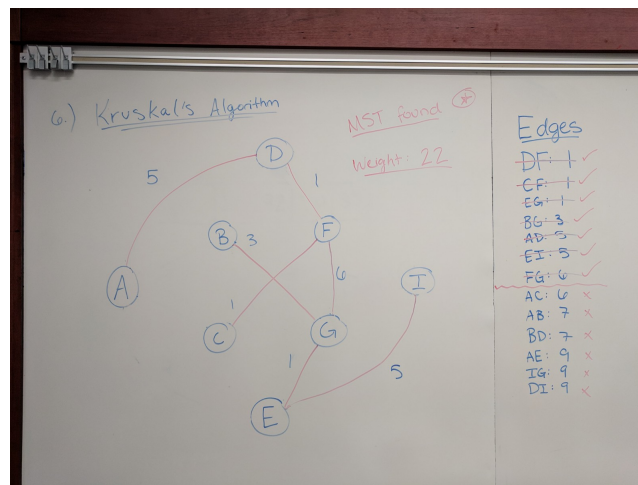


Figure 8: At this point all nodes have been visited. The marked edges is the Minimum Spanning Tree of this graph using Kruskal's Algorithm. The weight of the MST is 22.