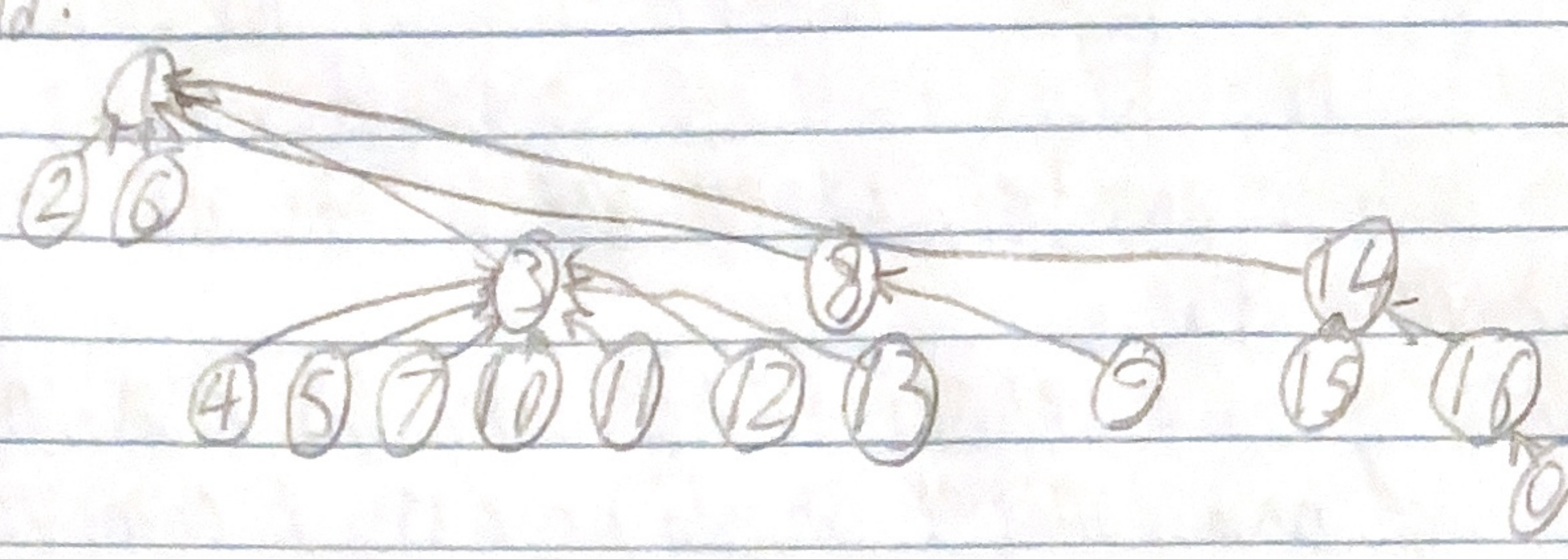
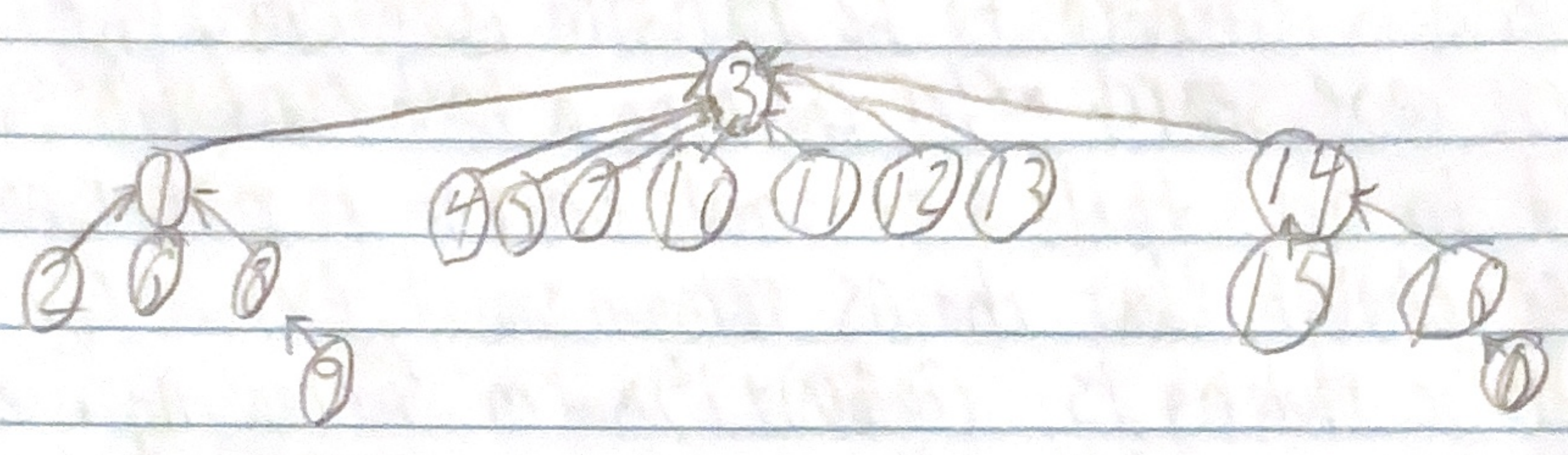
8.1) performing the sequence arbitrarily and by height both yield:



(2,6,3,8,14 are same height)

Performing the sequence by size yields:



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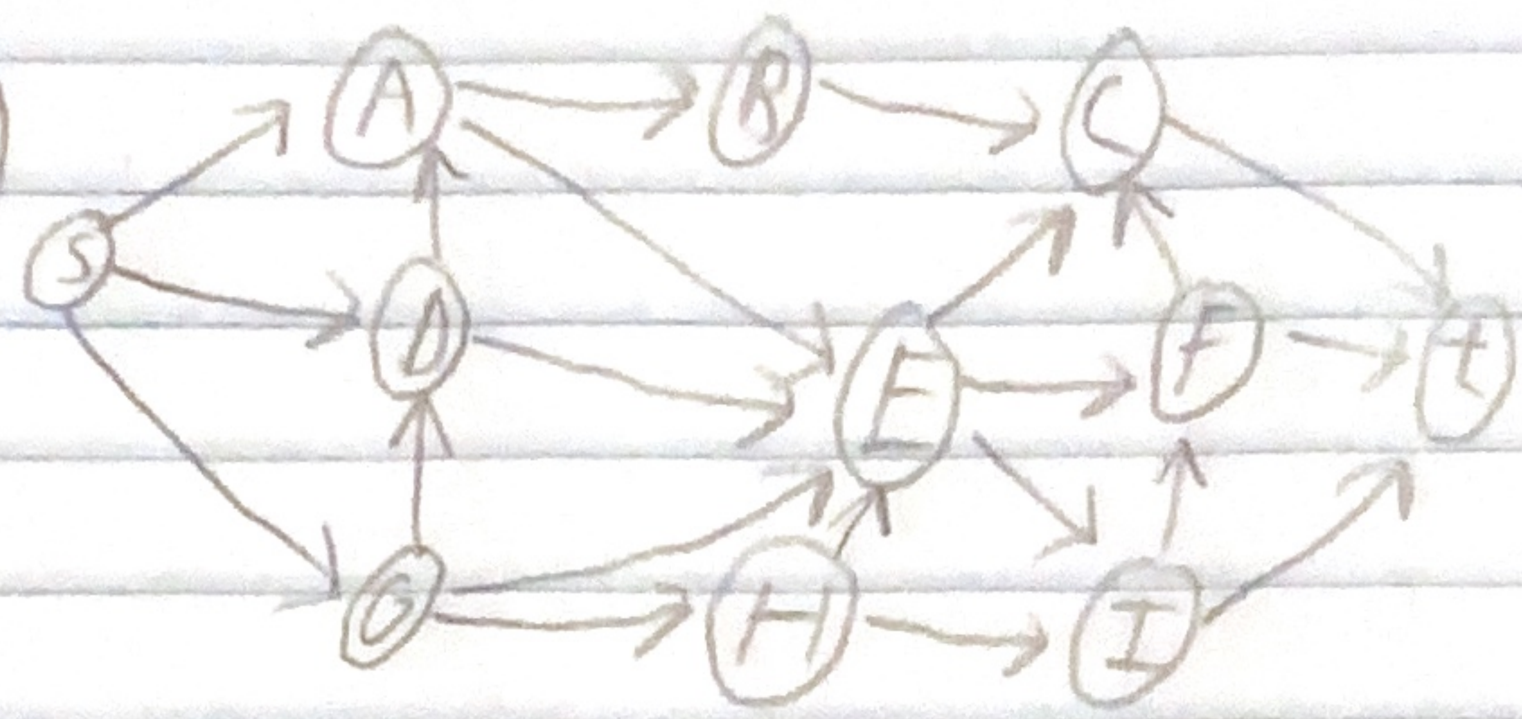
9.1)

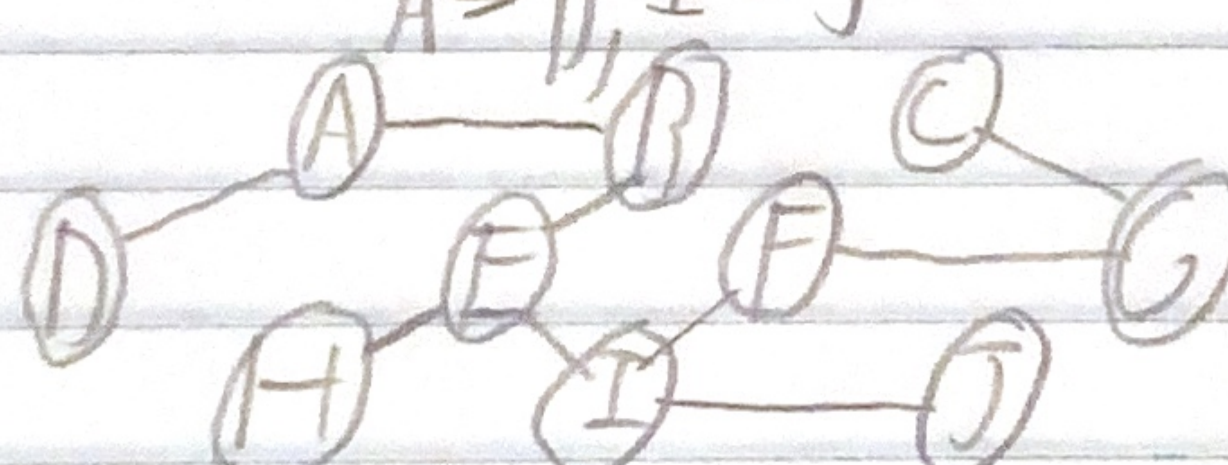


Topological ordering: S, G, D, H, A, B, E, I, F, C, t

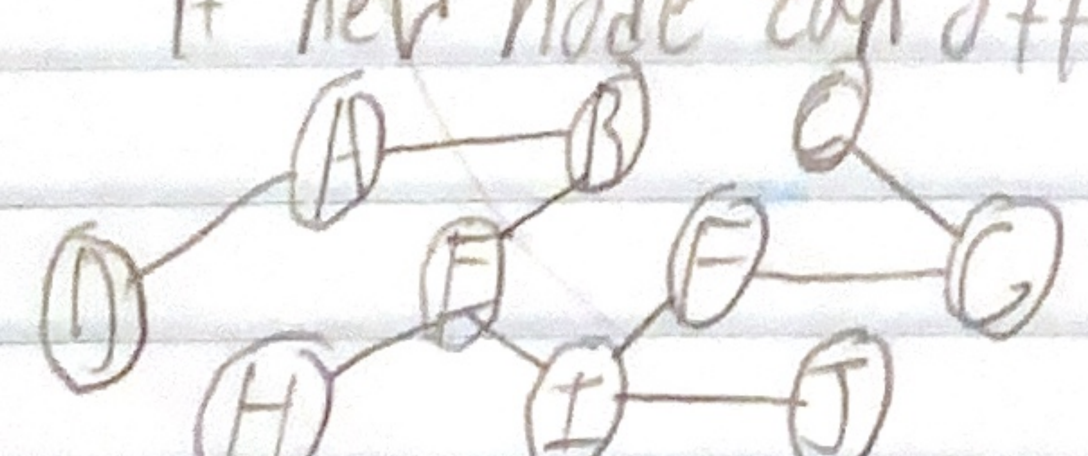
9.5 a) shortest weighted paths from A: A → B, A → C, A → B → G, A → B → G → E, A → B → G → E → F, A → C → D

b) shortest unweighted paths from B: B → G, B → E, B → C, B → E → F, B → C → D, B → C → D → A

9.15 a) i. using kruskal's, add edges of smallest weight without creating a cycle: C → G, E → I, F → G, E → B, E → H, F → I, B → A, A → D, I → J



ii. using prim's algorithm, start at node and branch off to least weighted edge without creating cycles: C → G, G → F, F → I, E → I, E → H, E → B, B → A, I → J, A → D
If new node can offer a better path than before, take it.



b) This solution is not unique, B → F could be used instead of F → I and the spanning network would remain the same length.