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CSCI-UA 310-001 PS3a

1.

1) Find in-degree of all nodes

A, B, C, D, E, F, G, H

[0, 0, 2, 1, 1, 2, 1, 1]

We will also keep track of the nodes with in-degree of 0 with a queue, and we will decrease the in-degree of all affected nodes. Begin:

Queue: A, B → Move A to top sort → top sort = A, in-degree of C = 1

Queue: B → Move B to top sort → Top sort = A, B, in-degree of C = 0

Queue: C → Move C to top sort → Top sort = A, B, C, in-degree of D, E = 0

Queue: D, E → Move D to top sort → A, B, C, D, in-degree of F = 1

E → E → A, B, C, D, E, in-degree of F = 0

F → F → A, B, C, D, E, F, in-degree of G, H = 0

G, H → G → A, B, C, D, E, F, G

H → H → A, B, C, D, E, F, G, H

Resulting top sort