

# **Homework 1**

CMPSC 465

Kinner Parikh  
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**Problem 1:**

I did not work in a group  
I did not consult without anyone my group member  
I did not consult any non-class materials

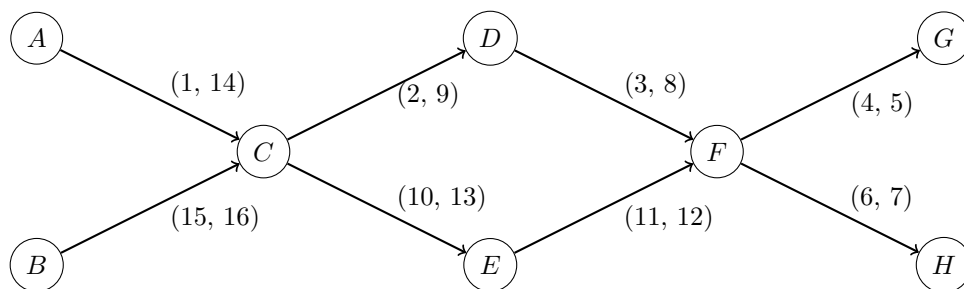
**Problem 2:** *DFS Basics*

- a)  $A, B, D, E, G, F, C, H, I$
- b)  $A(1, 12), B(2, 11), D(3, 6), E(4, 5), G(7, 10), F(8, 9), C(13, 18), H(14, 17), I(15, 16)$
- c) Tree Edges:  $\{(A, B), (B, D), (D, E), (B, G), (G, F), (C, H), (H, I)\}$   
Back Edges:  $\{(E, D)\}$   
Forward Edges:  $\{(A, E), (C, I)\}$   
Cross Edges:  $\{(G, D)\}$

**Problem 3:** *Pre and Post Processing*

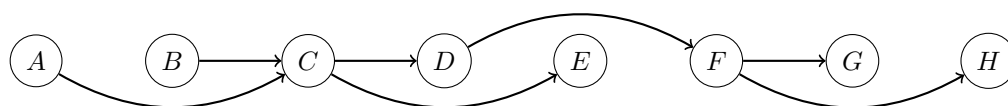
**Problem 4: Linearization Basics**

a) (pre, post)



b) Source Nodes:  $A, B$   
Sink Nodes:  $G, H$

c)



d) This graph will have 8 total linearizations