

Introduction to Algorithms

Module 6.5: Practice Day 01

(Practice Questions)

Topics:

- 1. Graph
- 2. DFS

Question: You will be given an undirected graph. Print its DFS traversal in reverse order.

Sample Input	Sample Output		
4 4 12 43 32 24	3 4 2 1 (4 3 2 1 is also valid ans)		

Question: You will be given an adjacency matrix for a directed graph (index starting from 1) as input. Now, convert it to an adjacency list and print it.

Sample Input	Sample Output		
4 0001 1001 1100 0010	List 1 : 4 List 2 : 1 4 List 3 : 1 2 List 4 : 3		
5 00000 10011 11011 11100 00100	List 1: List 2: 1 4 5 List 3: 1 2 4 5 List 4: 1 2 3 List 5: 3		

Question: You will be given a directed graph as input. Store this graph in an adjacency list. Now, convert this adjacency list to an adjacency matrix (index starting from 1) and print it.

mple Output

Question: You will be given an undirected graph as input. This graph will contain only one connected component. The edge number will be exactly node-1. Then take a node from the input and print its depth.

Sample Input	Sample Output
7 6 12 24 25 13 36 17	Depth of 7 = 1
7 6 12 24 25 13 36 17	Depth of 4 = 2

Question: You will be given an undirected graph as input. This graph will contain only one connected component. The edge number will be exactly node-1. Then take a node from the input and print its height.

Sample Input	Sample Output	
7 6 1 2 2 4 2 5	height of 1 = 2	
13 36 17 1		
7 6 12 24 25 13 36 17	height of 7 = 0	