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Depth First Search(DFS)

Problem

Submissions

Leaderboard

Discussions

Write a Java program to print all the nodes reachable from a given starting node in a digraph using the DFS method.

Input Format

460323123120301

Constraints

number of vertices should be positive

Output Format

DFS of graph: 1230

Sample Input 0

4

6 0

3

2

3

2

3

2

9

0

Sample Output 0

DFS of graph : 1 2 3 0

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Contest ends in 2 months

Submissions: 101 Max Score: 10 Difficulty: Medium

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More

Java 7 Ö //224G1A0553 2 ▼import java.io.*; import java.util.*; import java.text.*; import java.math.*; 6 import java.util.regex.*; 7 ▼class Gnode { Gnode next; 8 9 int vertex; 10 11 ▼public class Solution { 12 Gnode graph[]; 13 boolean visited[]; 14 int numVertices; 15 ▼ public Solution(int n) { 16 this.numVertices = n; 17 ▼ visited = new boolean[n]; 18 ▼ graph = new Gnode[n]; 19 } 20 ▼ void Dfs(int i) { 21 Gnode p; 22 System.out.printf(" %d",i); 23 🔻 p = graph[i]; 24 🔻 visited[i] = true; 25 🔻 while(p != null) { i = p.vertex; 26 27 ▼ if(visited[i] == false) 28 Dfs(i); 29 p = p.next; 30 } } 31 🔻 public static void main(String []args) { 32 int n, e, i, s, d, v; 33 Gnode q, p; 34 Scanner sc = new Scanner(System.in); 35 //System.out.printf("Enter the number of vertices : "); 36 n = sc.nextInt(); 37 //System.out.printf("Enter the number of edges : "); e = sc.nextInt(); 38 39 Solution g = new Solution(n); 40 for(i=1;i<=e;i++) { 41 //System.out.printf("Enter source : "); 42 s = sc.nextInt(); //System.out.printf("Enter destination : "); 43 44 d = sc.nextInt(); 45 q = new Gnode(); 46 q.vertex=d; 47 q.next=null; if(g.graph[s]==null) 48 • g.graph[s]=q; 49 ▼ 50 else { 51 ₹ p=g.graph[s]; 52 while(p.next!=null) 53 p=p.next; 54 p.next=q; 55 }} for(i=0;i<n;i++)</pre> 56 57 **•** g.visited[i] = false; 58 //System.out.printf("Enter Start Vertex for DFS : "); 59 v = sc.nextInt(); 60 System.out.printf("DFS of graph :"); 61 g.Dfs(v); System.out.printf("\n"); 62

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63	}}		
			Line: 63 Col:
<u>Upload C</u>	ode as File	Test against custom input	Run Code Submit Cod
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		ssed the sample test case.	
lick the Sub	mit Code button to	o run your code against all the test cases.	
nput (stdin)			
4			
6			
0 3			
2			
3			
1			
2			
1			
2			
0			
3			
0			
our Output	(staout)		
DFS of gr	aph : 1 2 3 0		
xpected Ou	tput		
DFS of gr	aph : 1 2 3 0		

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