

```

1 import java.io.*;
2 import java.util.*;
3
4 class Graph {
5
6     private LinkedList<Integer> adj[];
7
8     @SuppressWarnings("unchecked") Graph(int v)
9     {
10         V = v;
11         adj = new LinkedList[v];
12         for (int i = 0; i < v; ++i)
13             adj[i] = new LinkedList();
14     }
15
16     void addEdge(int v, int w)
17     {
18         adj[v].add(w);
19     }
20
21     void DFSUtil(int v, boolean visited[])
22     {
23         visited[v] = true;
24         System.out.print(v + " ");
25
26         Iterator<Integer> i = adj[v].listIterator();
27         while (i.hasNext()) {
28             int n = i.next();
29             if (!visited[n])
30                 DFSUtil(n, visited);
31         }
32     }
33
34     {
35         boolean visited[] = new boolean[V];
36
37         DFSUtil(v, visited);
38     }
39
40     public static void main(String args[])
41     {
42         Graph g = new Graph(4);
43
44         g.addEdge(0, 1);
45         g.addEdge(0, 2);
46         g.addEdge(1, 2);
47         g.addEdge(2, 0);
48         g.addEdge(2, 3);
49         g.addEdge(3, 3);
50
51         System.out.println(
52             "Following is Depth First Traversal "
53             + "(starting from vertex 2)");
54
55         g.DFS(2);
56     }
57 }
```