

```

1 import java.io.*;
2 import java.util.*;
3
4 class Graph
5 {
6     private LinkedList<Integer> adj[];
7
8     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 BFS(int s)
22     {
23         boolean visited[] = new boolean[V];
24
25         LinkedList<Integer> queue = new LinkedList<Integer>();
26
27         visited[s]=true;
28         queue.add(s);
29
30         while (queue.size() != 0)
31         {
32             s = queue.poll();
33             System.out.print(s+" ");
34
35             Iterator<Integer> i = adj[s].listIterator();
36             while (i.hasNext())
37             {
38                 int n = i.next();
39                 if (!visited[n])
40                 {
41                     visited[n] = true;
42                     queue.add(n);
43                 }
44             }
45         }
46     }
47
48     public static void main(String args[])
49     {
50         Graph g = new Graph(4);
51
52         g.addEdge(0, 1);
53         g.addEdge(0, 2);
54         g.addEdge(1, 2);
55         g.addEdge(2, 0);
56         g.addEdge(2, 3);
57         g.addEdge(3, 3);

```

```
58 |
59 | System.out.println("Following is Breadth First Traversal "+
60 |     "(starting from vertex 2)");
61 |
62 | g.BFS(2);
63 | }
64 | }
```