```
package lab11_test;
import java.util.*;

public class Graph {

    public static void main(String[] args) {

        String [][] edges = {
             {"Massachusetts","New Hampshire"}, {"New
Hampshire","Massachusetts"},
             {"Massachusetts","New York"}, {"New
York","Massachusetts"},
             {"Massachusetts","Connecticut"},
 {"Connecticut","Massachusetts"},
             {"Massachusetts","Vermont"},
 {"Vermont","Massachusetts"},
             {"Massachusetts","Rhode Island"}, {"Rhode
Island","Massachusetts"},
             {"Connecticut","Rhode Island"}, {"Rhode
Island","Connecticut"},
             {"Connecticut","New York"}, {"New York","Connecticut"},
             {"Vermont","New York"}, {"New York","Vermont"},
             {"Vermont","New Hampshire"}, {"New
Hampshire","Vermont"},
             {"Maine","New Hampshire"}, {"New Hampshire","Maine"}
              /*
              {"YJL087C", "YPL141C"}, {"YPL141C", "YJL087C"},
              {"YJL087C", "YIL035C"}, {"YIL035C", "YJL087C"},
              {"YPL141C", "YJR004C"}, {"YJR004C", "YPL141C"},
              {"YPL141C", "YPL240C"}, {"YPL240C", "YPL141C"},
              {"YDL025C", "YDL097C"}, {"YDL097C", "YDL025C"},
              {"YDL025C", "YPL240C"}, {"YPL240C", "YDL025C"},
              {"YBL026W", "YDL097C"}, {"YDL097C", "YBL026W"}
              */
            };

        HashSet<String> nodes = new HashSet<String>();
        for( int i = 0; i < edges.length; i++ )
            nodes.add(edges[i][0]);

        HashMap<String, HashSet<String>> graph = new HashMap<String,
 HashSet<String>>();

        for( int i = 0; i < edges.length; i++ )
        {
            if(graph.get(edges[i][0]) == null)
                graph.put(edges[i][0], new HashSet<String>());

            graph.get(edges[i][0]).add(edges[i][1]);
```

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        }

        LinkedList<String> queue = new LinkedList<String>();
        HashSet<String> visitedNodes = new HashSet<String>();
        HashMap<String, String> backPath = new HashMap<String,
 String>();

        String startNode = "Vermont";
        visitedNodes.add(startNode);
        queue.add(startNode);

        while(!queue.isEmpty())
        {
            String currentNode = queue.removeLast();
            HashSet<String> neighborSet = graph.get(currentNode);
            Iterator<String> neighbors = neighborSet.iterator();
            while( neighbors.hasNext() )
            {
                String neighborNode = neighbors.next();
                if( !visitedNodes.contains(neighborNode) )
                {
                    backPath.put(neighborNode, currentNode);
                    visitedNodes.add(neighborNode);
                    queue.addFirst(neighborNode);
                }
            }
        }

        Iterator <String> nodesIterator = nodes.iterator();
        while( nodesIterator.hasNext() )
        {
            String backTraceNode = nodesIterator.next();
            while( backTraceNode.compareTo(startNode) != 0 )
            {
                System.out.print(backTraceNode + " -> ");
                backTraceNode = backPath.get(backTraceNode);
            }
            System.out.println(backTraceNode);
        }
    }
}
```