

## Adjacency List method for storing a graph

```
    final static int BAD=0;
    final static int TREE=1;

class Node {
    int ID;
    int dfsNum;
    boolean visited;
    String nodeLabel;
    EdgeList adj; // pointer to head of linked list of successors
    public String toString()
    {
        return ID + nodeLabel ;
    }
}
class EdgeList
{
    EdgeList next;
    Edge e;
}

class Edge {
    int from; // endpoint of start node
    int to; // endpoint of end node
    double len; // length of edge in graph (or cost or other annotation)
    int edgeType: {TREE BAD}
    Edge(int f, int t, double l)
    { from = f; to = t; len =l;}
}

public class Graph{

    final static int SIZE = 20;
    Node [] nodes = new Node[SIZE];

}
```

Write code for doing a depth first search. Assume the nodes are already stored in the graph.

- (1) Label all nodes with dfs number (in sequential order)
- (2) Label all edges with the type of edge it is