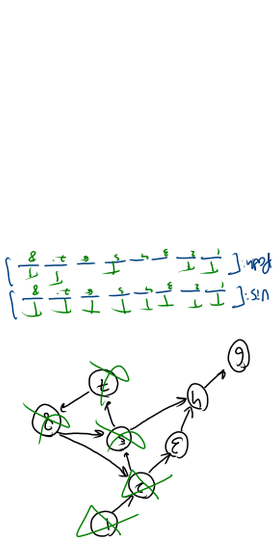
Undirected graph

BFS

DFS

```
public boolean dfs(int node,ArrayList<Integer>[] graph,boo
    //mark
    visited[node] = true;
    path[node]= true;
    //work - there is  no work for this problem. all the wo
    for(int nbr:graph[node]){
        if(!visited[nbr]){
            boolean cycleFound = dfs(nbr,graph,visited,path);
            if(cycleFound) return true;
        }else if(path[nbr] == true){
            //the snake is cutting itself
            return true;//cycle has been detected
        }
    }
    path[node] = false;
    return false;
}
```



```
public boolean dfs(int node,ArrayList<Integer>[] graph,boolean[] visited,boolean[] path){
    //mark
    visited[node] = true;
    path[node]= true;
    //work - there is  no work for this problem. all the work is handled while adding nbrs
    for(int nbr:graph[node]){
        if(!visited[nbr]){
            boolean cycleFound = dfs(nbr,graph,visited,path);
            if(cycleFound) return true;
        }else if(path[nbr] == true){
            //the snake is cutting itself
            return true;//cycle has been detected
        }
    }
    path[node] = false;
    return false;
}
```