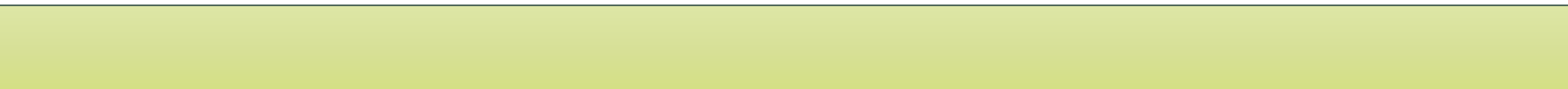




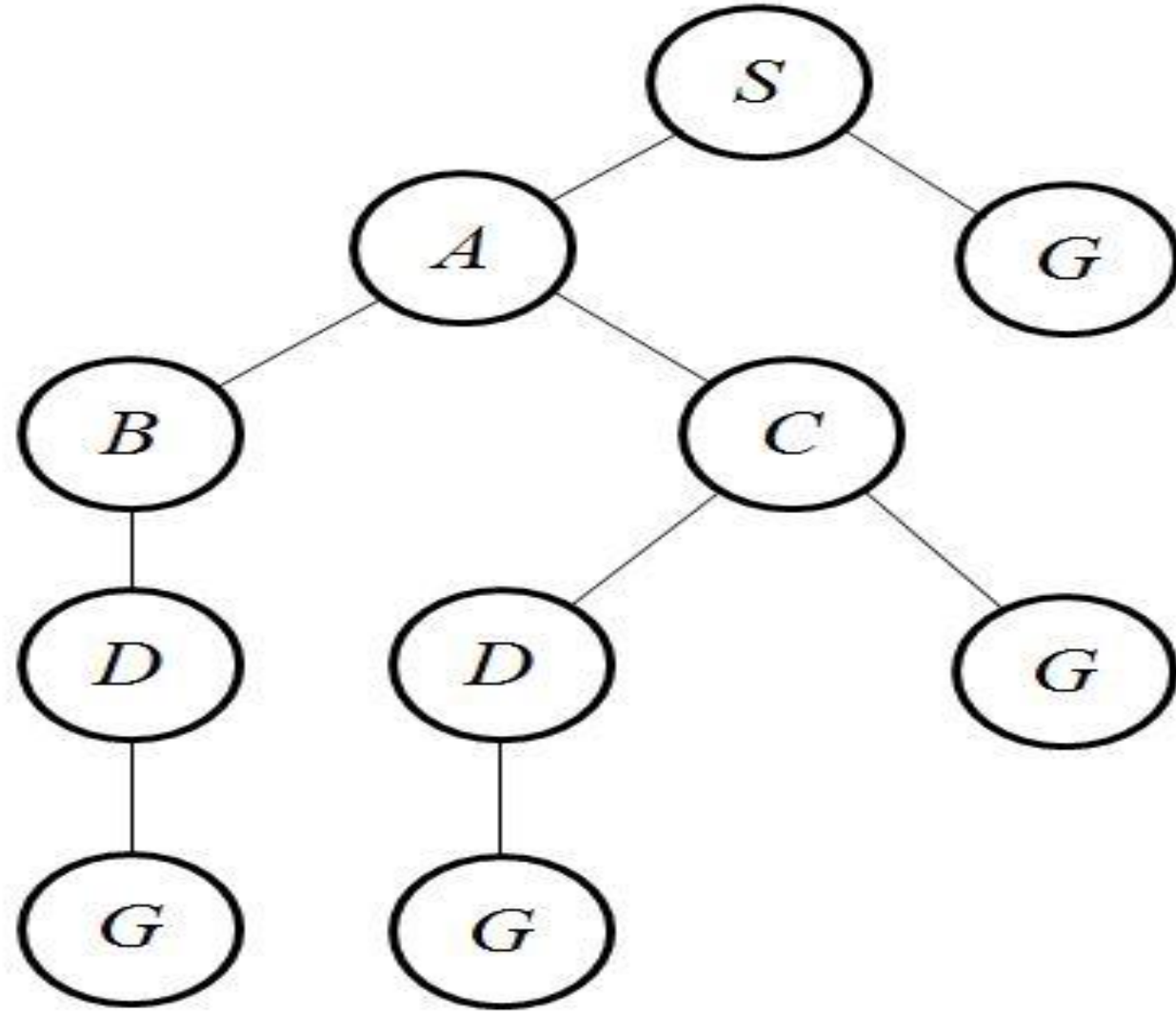
BUGLIFE - A Bug's Life(SPOJ)

Presented by: Adarsh Singh





Solution using DFS



adja.cpp

x

```
1  #include <bits/stdc++.h>
2
3  using namespace std;
4  #define M 1 //male
5  #define F (-1) //female
6  #define U 0 //no mark
7
8  vector<int> adj[21000];
9  short int g[21000]; //gender
10
11
12 bool DFS(int r)
13 {
14     bool res = true;
15     for(int i = 0; i < adj[r].size(); i++)
16     {
17         int v = adj[r][i];
18         if(g[v] == g[r]) return false;
19         if(g[v] == U)
20         {
21             g[v] = -g[r];
22             res = res and DFS(v);
23         }
24     }
25     return res;
26 }
27
28
29
30 int main(void)
```

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adja.cpp

```
29
30 int main(void)
31 {
32
33     int t = 0;
34     cin >> t;
35     for(int tt = 1; tt <= t; tt++)
36     {
37         int n, m;
38         cin>>n>>m;
39         for(int i = 0; i < n; i++)
40         {
41             g[i] = U;
42             adj[i].clear();
43         }
44
45         int x, y;
46         for( int i = 0; i < m; i++)
47         {
48             cin>>x>>y;
49             adj[x].push_back(y); adj[y].push_back(x);
50         }
51
52         cout<<"Scenario #"<<tt<<":\n";
53
54         bool result = true;
55         for(int i = 0; i < n; i++)
56         {
57             if(g[i] == U)
58             {
```

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adja.cpp

```
43     }  
44  
45     int x, y;  
46     for( int i = 0; i < m; i++)  
47     {  
48         cin>>x>>y;  
49         adj[x].push_back(y); adj[y].push_back(x);  
50     }  
51  
52     cout<<"Scenario #"<<tt<<":\n";  
53  
54     bool result = true;  
55     for(int i = 0; i < n; i++)  
56     {  
57         if(g[i] == U)  
58         {  
59             g[i] = M;  
60             result = result and DFS(i);  
61         }  
62     }  
63  
64     if(result)  
65         cout<<"No suspicious bugs found!\n";  
66     else  
67         cout<<"Suspicious bugs found!\n";  
68 }  
69  
70 return 0;  
71 }
```

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Thanks