Bipartite.java

```
1  package Graph;
2
3  import java.util.ArrayList;
4  import java.util.Arrays;
5
6  public class Bipartite {
7      public static boolean isBipartite(int[][] graph) {
8          int n=graph.length;
9          ArrayList<ArrayList<Integer>>adj=new ArrayList<>();
10 2        for(int i=0;i<n;i++){
11             adj.add(new ArrayList<>());
12         }
13
14 2        for(int i=0;i<n;i++){
15 2            for(int j=0;j<graph[i].length;j++){
16                 adj.get(i).add(graph[i][j]);
17             }
18         }
19
20 1        int color[]=new int[n+1];
21 1        Arrays.fill(color,-1);
22
23 2        for(int i=0;i<n;i++){
24 1            if(color[i]==-1){
25 1                if(dfs(i,0,color,adj)==false){
26 1                    return false;
27                 }
28             }
29         }
30 1        return true;
31     }
32     public static boolean dfs(int node, int col, int color[], ArrayList<ArrayList<Integer>>adj) {
33         color[node] = col;
34         // traverse adjacent nodes
35         for(int it : adj.get(node)) {
36             // if uncoloured
37 1           if(color[it] == -1) {
38 3               if(dfs(it, 1 - col, color, adj) == false) return false;
39             }
40             // if previously coloured and have the same colour
41 1           else if(color[it] == col) {
42 1               return false;
43             }
44         }
45 1        return true;
46     }
47 }
```

Mutations

10	1. changed conditional boundary → SURVIVED 2. negated conditional → KILLED
14	1. negated conditional → KILLED 2. changed conditional boundary → KILLED
15	1. changed conditional boundary → KILLED 2. negated conditional → KILLED
20	1. Replaced integer addition with subtraction → KILLED
21	1. removed call to java/util/Arrays::fill → KILLED
23	1. changed conditional boundary → KILLED 2. negated conditional → KILLED
24	1. negated conditional → KILLED
25	1. negated conditional → KILLED
26	1. replaced boolean return with true for Graph/Bipartite::isBipartite → KILLED
30	1. replaced boolean return with false for Graph/Bipartite::isBipartite → KILLED
37	1. negated conditional → KILLED
38	1. Replaced integer subtraction with addition → KILLED 2. negated conditional → KILLED 3. replaced boolean return with true for Graph/Bipartite::dfs → SURVIVED
41	1. negated conditional → KILLED
42	1. replaced boolean return with true for Graph/Bipartite::dfs → KILLED
45	1. replaced boolean return with false for Graph/Bipartite::dfs → KILLED

Active mutators

- CONDITIONALS_BOUNDARY
- EMPTY_RETURNS
- FALSE_RETURNS
- INCREMENTS
- INVERT_NEGS
- MATH
- NEGATE_CONDITIONALS
- NULL_RETURNS
- PRIMITIVE_RETURNS
- TRUE_RETURNS
- VOID_METHOD_CALLS

Tests examined

- Graph.BipartiteTest.testIsBipartite(Graph.BipartiteTest) (0 ms)

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