

Bipartite.java

```

1  package com.example.graph;
2
3  import java.util.ArrayList;
4  import java.util.Arrays;
5
6  public class Bipartite {
7      public boolean isBipartite(int[][] graph) {
8          int n = graph.length;
9          ArrayList<ArrayList<Integer>> adj = new ArrayList<>();
10         for (int i = 0; i < n; i++) {
11             adj.add(new ArrayList<>());
12         }
13
14         for (int i = 0; i < n; i++) {
15             for (int j = 0; j < graph[i].length; j++) {
16                 adj.get(i).add(graph[i][j]);
17             }
18         }
19
20         int color[] = new int[n + 1];
21         Arrays.fill(color, -1);
22
23         for (int i = 0; i < n; i++) {
24             if (color[i] == -1) {
25                 if (dfs(i, 0, color, adj) == false) {
26                     return false;
27                 }
28             }
29         }
30         return true;
31     }
32
33     public static boolean dfs(int node, int col, int color[], ArrayList<ArrayList<Integer>> adj) {
34         color[node] = col;
35         // traverse adjacent nodes
36         for (int it : adj.get(node)) {
37             // if uncoloured
38             if (color[it] == -1) {
39                 if (dfs(it, 1 - col, color, adj) == false)
40                     return false;
41             }
42             // if previously coloured and have the same colour
43             else if (color[it] == col) {
44                 return false;
45             }
46         }
47         return true;
48     }
49 }

```

Mutations

- 10 1. changed conditional boundary → SURVIVED
- 2. negated conditional → KILLED
- 14 1. changed conditional boundary → KILLED
- 2. negated conditional → 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. negated conditional → KILLED
- 2. changed conditional boundary → KILLED
- 24 1. negated conditional → KILLED
- 25 1. negated conditional → KILLED
- 26 1. replaced boolean return with true for com/example/graph/Bipartite::isBipartite → KILLED
- 30 1. replaced boolean return with false for com/example/graph/Bipartite::isBipartite → KILLED
- 38 1. negated conditional → KILLED
- 39 1. negated conditional → KILLED
- 2. Replaced integer subtraction with addition → KILLED
- 40 1. replaced boolean return with true for com/example/graph/Bipartite::dfs → SURVIVED

43	1. negated conditional → KILLED
44	1. replaced boolean return with true for com/example/graph/Bipartite::dfs → KILLED
47	1. replaced boolean return with false for com/example/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

- com.example.graph.BipartiteTest.testIsBipartite(com.example.graph.BipartiteTest) (0 ms)

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