785. Is Graph Bipartite?

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User Accepted:	426
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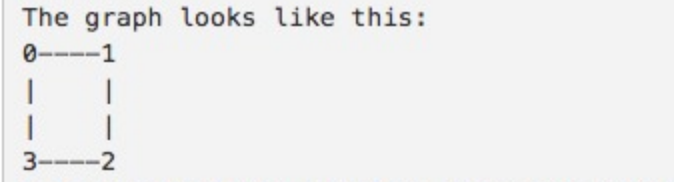
Total Accepted:	433
Total Submissions:	1327
Difficulty:	Medium

Given a `graph`, return `true` if and only if it is bipartite.

Recall that a graph is *bipartite* if we can split it's set of nodes into two independent subsets A and B such that every edge in the graph has one node in A and another node in B.

The graph is given in the following form: `graph[i]` is a list of indexes `j` for which the edge between nodes `i` and `j` exists. Each node is an integer between `0` and `graph.length - 1`. There are no self edges or parallel edges: `graph[i]` does not contain `i`, and it doesn't contain any element twice.

Example 1:
Input: `[[1,3], [0,2], [1,3], [0,2]]`
Output: `true`
Explanation:
The graph looks like this:



We can divide the vertices into two groups: {0, 2} and {1, 3}.

Example 2:
Input: `[[1,2,3], [0,2], [0,1,3], [0,2]]`
Output: `false`
Explanation:
The graph looks like this:

We cannot find a way to divide the set of nodes into two independent ubsets.

Note:

- `graph` will have length in range `[1, 100]`.
- `graph[i]` will contain integers in range `[0, graph.length - 1]`.
- `graph[i]` will not contain `i` or duplicate values.