785. Is Graph Bipartite?

Medium Topics Companies

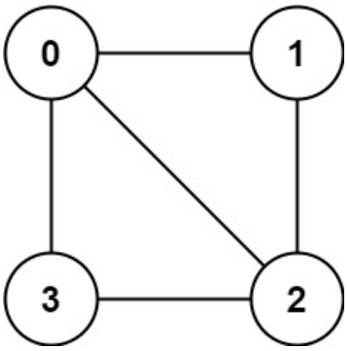
There is an **undirected** graph with `n` nodes, where each node is numbered between `0` and `n - 1`. You are given a 2D array `graph`, where

- There are no self-edges (`graph[u]` does not contain `u`).
- There are no parallel edges (`graph[u]` does not contain duplicate values).
- If `v` is in `graph[u]`, then `u` is in `graph[v]` (the graph is undirected).
- The graph may not be connected, meaning there may be two nodes `u` and `v` such that there is no path between them.

A graph is **bipartite** if the nodes can be partitioned into two independent sets `A` and `B` such that **every** edge in the graph connects a nod

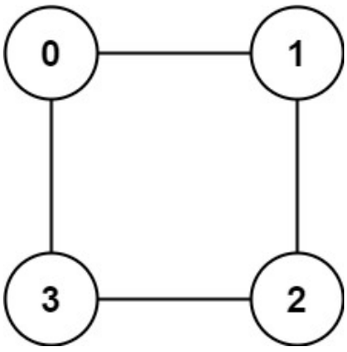
Return `true` *if and only if it is* ***bipartite***.

Example 1:




```
Input: graph = [[1,2,3],[0,2],[0,1,3],[0,2]]
Output: false
Explanation: There is no way to partition the nodes into two independent sets such that every edge c
```

Example 2:




```
Input: graph = [[1,3],[0,2],[1,3],[0,2]]
Output: true
Explanation: We can partition the nodes into two sets: {0, 2} and {1, 3}.
```

Constraints:

- `graph.length == n`
- `1 <= n <= 100`
- `0 <= graph[u].length < n`
- `0 <= graph[u][i] <= n - 1`
- `graph[u]` does not contain `u`.
- All the values of `graph[u]` are **unique**.
- If `graph[u]` contains `v`, then `graph[v]` contains `u`