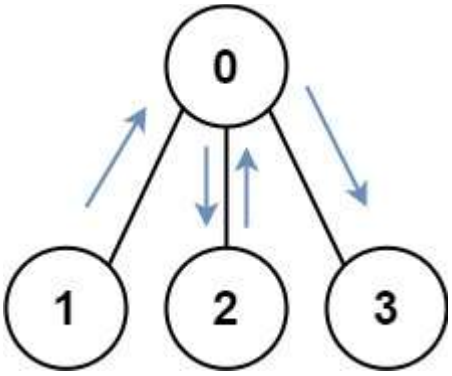
Shortest Path Visiting All Nodes

You have an undirected, connected graph of n nodes labeled from 0 to n - 1. You are given an array graph where graph[i] is a list of all the nodes connected with node i by an edge.

Return *the length of the shortest path that visits every node*. You may start and stop at any node, you may revisit nodes multiple times, and you may reuse edges.

Example 1:

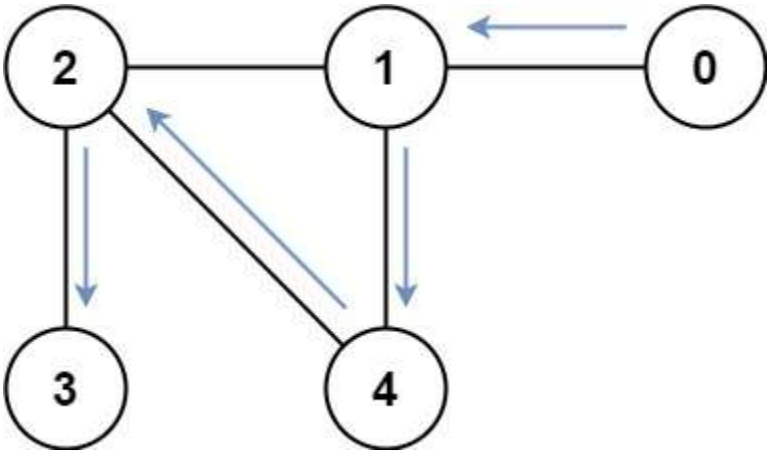


Input: graph = [[1,2,3],[0],[0],[0]]

Output: 4

Explanation: One possible path is [1,0,2,0,3]

Example 2:



Input: graph = [[1],[0,2,4],[1,3,4],[2],[1,2]]

Output: 4

Explanation: One possible path is [0,1,4,2,3]

Constraints:

- n == graph.length
- 1 <= n <= 12
- 0 <= graph[i].length < n
- graph[i] does not contain i.
- If graph[a] contains b, then graph[b] contains a.
- The input graph is always connected.