

# 1857. Largest Color Value in a Directed Graph

## Description

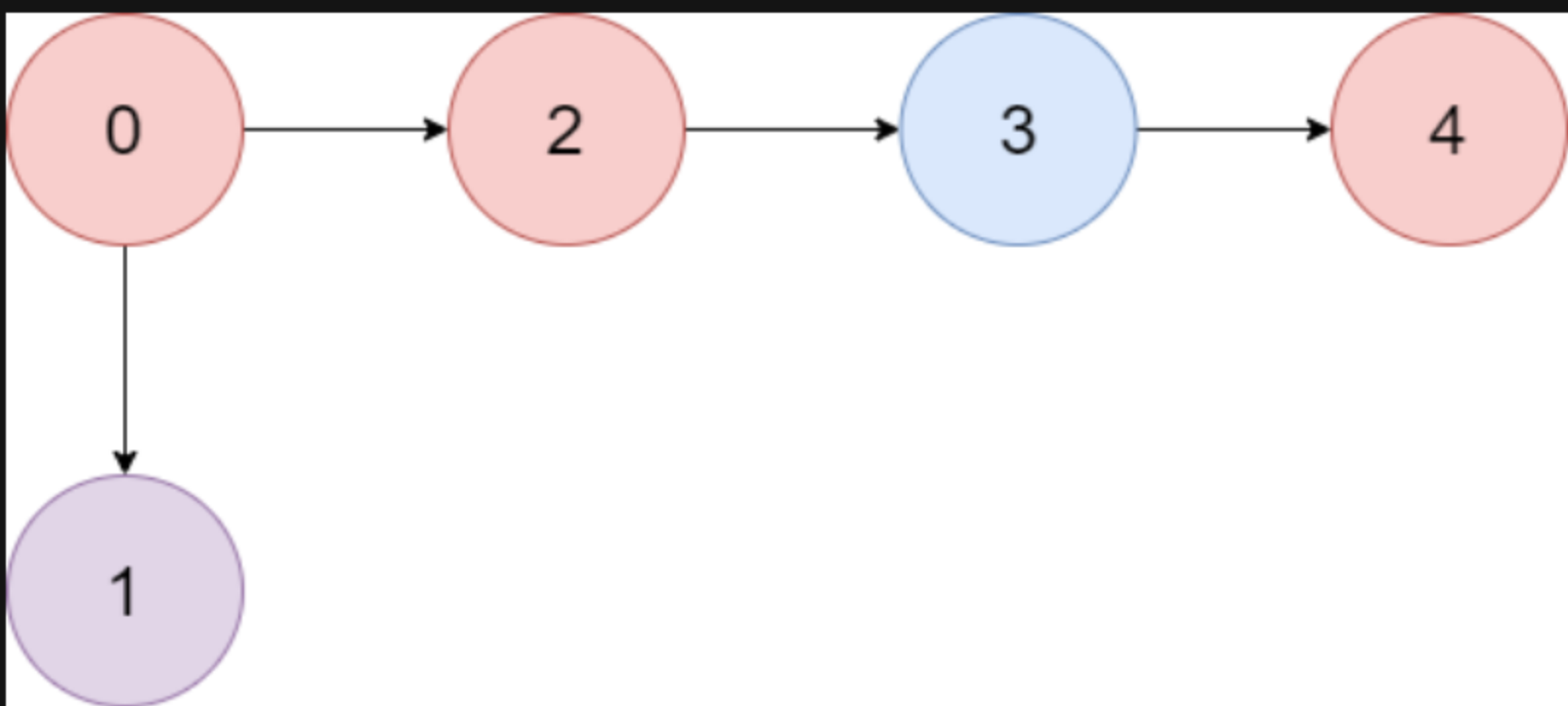
There is a **directed graph** of `n` colored nodes and `m` edges. The nodes are numbered from `0` to `n - 1`.

You are given a string `colors` where `colors[i]` is a lowercase English letter representing the **color** of the `ith` node in this graph (**0-indexed**). You are also given a 2D array `edges` where `edges[j] = [aj, bj]` indicates that there is a **directed edge** from node `aj` to node `bj`.

A valid **path** in the graph is a sequence of nodes `x1 -> x2 -> x3 -> ... -> xk` such that there is a directed edge from `xi` to `xi+1` for every `1 <= i < k`. The **color value** of the path is the number of nodes that are colored the **most frequently** occurring color along that path.

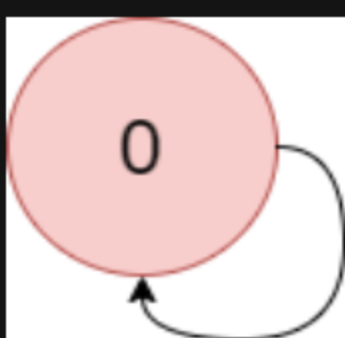
Return *the largest color value of any valid path in the given graph, or -1 if the graph contains a cycle*.

### Example 1:



**Input:** `colors = "abaca"`, `edges = [[0,1],[0,2],[2,3],[3,4]]`  
**Output:** `3`  
**Explanation:** The path `0 -> 2 -> 3 -> 4` contains 3 nodes that are colored "a" (red in the above image).

### Example 2:



**Input:** `colors = "a"`, `edges = [[0,0]]`  
**Output:** `-1`  
**Explanation:** There is a cycle from 0 to 0.

### Constraints:

- `n == colors.length`
- `m == edges.length`
- `1 <= n <= 105`
- `0 <= m <= 105`
- `colors` consists of lowercase English letters.
- `0 <= aj, bj < n`

