

# Coloured Bridges A (1/2/4 Points)

time limit per test: 1 second  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

points: 100 · problem code: colouredbridgesa · author: jszqlew

## Problem Statement

Warning: This problem is not necessarily easy, this is the easier version of this problem.

You are given an undirected graph with  $n$  vertices (labelled 1 through  $n$ ) and  $m$  edges. Additionally, each vertex has a colour, which is given as a number between 0 and  $n$ . Between any two vertices of the same colour you may build a bridge (edge) but only if they are not colour 0.

Building bridges is expensive so you do not want to build many. You want to get from vertex 1 to  $n$  by traversing at little edges as possible, determine the way which cost the least number of bridges.

Determine the minimum number of bridges needed to get from vertex 1 to  $n$  in the minimum possible time. If it is not possible to make such a path, output  $-1$ .

## Input Format

Your first line will contain two integers  $n$  and  $m$  respectively. Your next line will contain  $n$  integers, representing the colours of the  $n$  nodes given in order of the nodes from 1 to  $n$ . Your next  $m$  lines will contain two integers each,  $u$  and  $v$ , meaning there is an edge between node  $u$  and node  $v$ .

## Output Format

Output a single integer representing the minimum number of bridges needed to get from vertex 1 to  $n$  in the minimum possible time.

## Constraints

**Subtask 1 - 25%:**

- $1 \leq n, m \leq 10^3$

**Subtask 2 - 25%:**

- $1 \leq n \leq 10^3$
- $1 \leq m \leq 10^5$

**Subtask 3 - 50%:**

- $1 \leq n, m \leq 10^5$

## Sample Cases

### Input 1

```
4 3
1 2 3 4
1 2
2 3
3 4
```

### Output 1

```
0
```

### Input 2

```
4 2
1 2 1 3
1 2
3 4
```

### Output 2

```
1
```

### Input 3

```
3 0
0 1 2
```

### Output 3

```
-1
```

### Input 4

```
6 4
1 2 3 2 1 4
1 2
2 3
3 4
5 6
```

### Output 4

```
1
```