Problem 1182: Shortest Distance to Target Color

Problem Information

Difficulty: Medium
Acceptance Rate: 56.44%
Paid Only: Yes
Tags: Array, Binary Search, Dynamic Programming

Problem Description

You are given an array `colors`, in which there are three colors: `1`, `2` and `3`.

You are also given some queries. Each query consists of two integers `i` and `c`, return the shortest distance between the given index `i` and the target color `c`. If there is no solution return `-1`.

Example 1:

Input: colors = [1,1,2,1,3,2,2,3,3], queries = [[1,3],[2,2],[6,1]] **Output:** [3,0,3] **Explanation:** The nearest 3 from index 1 is at index 4 (3 steps away). The nearest 2 from index 2 is at index 2 itself (0 steps away). The nearest 1 from index 6 is at index 3 (3 steps away).

Example 2:

Input: colors = [1,2], queries = [[0,3]] **Output:** [-1] **Explanation:** There is no 3 in the array.

Constraints:

* `1 <= colors.length <= 5*10^4` * `1 <= colors[i] <= 3` * `1 <= queries.length <= 5*10^4` * `queries[i].length == 2` * `0 <= queries[i][0] < colors.length` * `1 <= queries[i][1] <= 3`

Code Snippets

C++:

```
class Solution {
public:
vector<int> shortestDistanceColor(vector<int>& colors, vector<vector<int>>&
queries) {

}
};
```

Java:

```
class Solution {
public List<Integer> shortestDistanceColor(int[] colors, int[][] queries) {

}
}
```

Python3:

```
class Solution:
def shortestDistanceColor(self, colors: List[int], queries: List[List[int]])
-> List[int]:
```