3629. Minimum Jumps to Reach End via Prime Teleportation

Solved

Medium Hint

You are given an integer array `nums` of length `n`.

You start at index 0, and your goal is to reach index `n - 1`.

From any index `i`, you may perform one of the following operations:

- **Adjacent Step**: Jump to index `i + 1` or `i - 1`, if the index is within bounds.
- **Prime Teleportation**: If `nums[i]` is a prime number `p`, you may instantly jump to any index `j != i` such that `nums[j] % p == 0`.

Return the **minimum** number of jumps required to reach index `n - 1`.

Example 1:

> **Input:** nums = [1,2,4,6]
>
> **Output:** 2
>
> **Explanation:**
>
> One optimal sequence of jumps is:
>
> - Start at index `i = 0`. Take an adjacent step to index 1.
> - At index `i = 1`, `nums[1] = 2` is a prime number. Therefore, we teleport to index `i = 3` as `nums[3] = 6` is divisible by 2.
>
> Thus, the answer is 2.

Example 2:

> **Input:** nums = [2,3,4,7,9]
>
> **Output:** 2
>
> **Explanation:**
>
> One optimal sequence of jumps is:
>
> - Start at index `i = 0`. Take an adjacent step to index `i = 1`.
> - At index `i = 1`, `nums[1] = 3` is a prime number. Therefore, we teleport to index `i = 4` since `nums[4] = 9` is divisible by 3.
>
> Thus, the answer is 2.

Example 3:

> **Input:** nums = [4,6,5,8]
>
> **Output:** 3
>
> **Explanation:**
>
> - Since no teleportation is possible, we move through `0 → 1 → 2 → 3`. Thus, the answer is 3.

Constraints:

- $1 <= n == nums.length <= 10^5$
- $1 <= nums[i] <= 10^6$

Seen this question in a real interview before? 1/5

Yes No

Accepted 7.458/42.8K | **Acceptance Rate** 17.4%

Topics

Hint 1

Hint 2

Hint 3

Discussion (38)