

# 1466. Jump Game V

## Difficulty : Hard

<https://leetcode.com/problems/jump-game-v>

Given an array of integers `arr` and an integer `d`. In one step you can jump from index `i` to index:

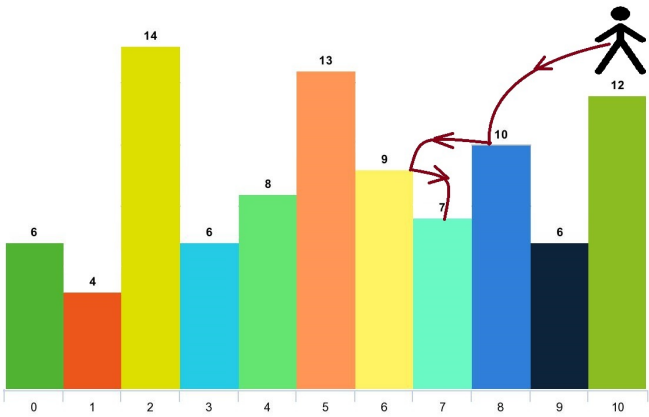
- `i + x` where: `i + x < arr.length` and `0 < x <= d`.
- `i - x` where: `i - x >= 0` and `0 < x <= d`.

In addition, you can only jump from index `i` to index `j` if `arr[i] > arr[j]` and `arr[i] > arr[k]` for all indices `k` between `i` and `j` (More formally  $\min(i, j) < k < \max(i, j)$ ).

You can choose any index of the array and start jumping. Return *the maximum number of indices* you can visit.

Notice that you can not jump outside of the array at any time.

### Example 1:



**Input:** `arr = [6,4,14,6,8,13,9,7,10,6,12]`, `d = 2`

**Output:** 4

**Explanation:** You can start at index 10. You can jump `10 --> 8 --> 6 --> 7` as shown.

Note that if you start at index 6 you can only jump to index 7. You cannot jump to index 6 you cannot jump to index 4 because index 5 is between index 4 and 6 and `13 > 9`. Similarly You cannot jump from index 3 to index 2 or index 1.

### Example 2:

**Input:** `arr = [3,3,3,3,3]`, `d = 3`

**Output:** 1

**Explanation:** You can start at any index. You always cannot jump to any index.

### Example 3:

**Input:** `arr = [7,6,5,4,3,2,1]`, `d = 1`

**Output:** 7

**Explanation:** Start at index 0. You can visit all the indices.

### Constraints:

- `1 <= arr.length <= 1000`
- `1 <= arr[i] <= 105`
- `1 <= d <= arr.length`