1330. Longest Arithmetic Subsequence of Given Difference

Difficulty : Medium

https://leetcode.com/problems/longest-arithmetic-subsequence-of-given-difference

Given an integer array `arr` and an integer `difference`, return the length of the longest subsequence in `arr` which is an arithmetic sequence such that the difference between adjacent elements in the subsequence equals `difference`.

A **subsequence** is a sequence that can be derived from `arr` by deleting some or no elements without changing the order of the remaining elements.

Example 1:

```
Input: arr = [1,2,3,4], difference = 1
Output: 4
Explanation: The longest arithmetic subsequence is [1,2,3,4].
```

Example 2:

```
Input: arr = [1,3,5,7], difference = 1
Output: 1
Explanation: The longest arithmetic subsequence is any single element.
```

Example 3:

```
Input: arr = [1,5,7,8,5,3,4,2,1], difference = -2
Output: 4
Explanation: The longest arithmetic subsequence is [7,5,3,1].
```

Constraints:

- `1 <= arr.length <= 10^5`
- `-10^4 <= arr[i], difference <= 10^4`