2016. Maximum Difference Between Increasing Elements

Description

Given a **0-indexed** integer array `nums` of size `n`, find the **maximum difference** between `nums[i]` and `nums[j]` (i.e., `nums[j] - nums[i]`), such that `0 <= i < j < n` and `nums[i] < nums[j]`.

Return *the **maximum difference***. If no such `i` and `j` exists, return `-1`.

Example 1:

```
Input: nums = [7, 1 , 5 ,4]
Output: 4
Explanation:
The maximum difference occurs with i = 1 and j = 2, nums[j] - nums[i] = 5 - 1 = 4.
Note that with i = 1 and j = 0, the difference nums[j] - nums[i] = 7 - 1 = 6, but i > j, so it is not valid.
```

Example 2:

```
Input: nums = [9,4,3,2]
Output: -1
Explanation:
There is no i and j such that i < j and nums[i] < nums[j].
```

Example 3:

```
Input: nums = [ 1 ,5,2, 10 ]
Output: 9
Explanation:
The maximum difference occurs with i = 0 and j = 3, nums[j] - nums[i] = 10 - 1 = 9.
```

Constraints:

- `n == nums.length`
- `2 <= n <= 1000`
- `1 <= nums[i] <= 10`^{9}