@LeetCode

Given a **non–empty** array of integers, return the **third** maximum number in this array. If it does not exist, return the maximum number. The time complexity must be in O(n).

**Example 1:**

```
Input: [3, 2, 1]


Output: 1


Explanation: The third maximum is 1.
```

**Example 2:**

```
Input: [1, 2]


Output: 2


Explanation: The third maximum does not exist, so the maximum (2) is returned
instead.
```

**Example 3:**

```
Input: [2, 2, 3, 1]


Output: 1


Explanation: Note that the third maximum here means the third maximum distinct
number.

Both numbers with value 2 are both considered as second maximum.
```