414. Third Maximum Number

QuestionEditorial Solution

My Submissions

- Total Accepted: **6241**
- Total Submissions: **23575**
- Difficulty: **Easy**
- Contributors: **ZengRed** , **1337c0d3r**

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).

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

Output: 1

Explanation: The third maximum is 1.
```

```
Input: [1, 2]

Output: 2

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

```
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.
```

```
//author:zhewei
class Solution {
public:
    int thirdMax(vector<int>& nums) {
        int n = nums.size();
        sort(nums.begin(),nums.end());
        if(n<3)
        {
            return nums[n-1];
        }
        int cnt=1; int num_old = nums[n-1];
        int idx;
        for(int i=n-1;i>=0;i--)
        {
            if(num_old!=nums[i]) {cnt++;num_old=nums[i];}
            if(cnt==3) {idx = i;break;}
        }
        if(cnt<3) return nums[n-1];
```

```
        return nums[idx];
    }
};
```