398. Random Pick Index

QuestionEditorial Solution

- Total Accepted: **5240**
- Total Submissions: **14799**
- Difficulty: **Medium**
- Contributors: **Admin**

Given an array of integers with possible duplicates, randomly output the index of a given target number. You can assume that the given target number must exist in the array.

Note:

The array size can be very large. Solution that uses too much extra space will not pass the judge.

```
int[] nums = new int[] {1,2,3,3,3};
Solution solution = new Solution(nums);

// pick(3) should return either index 2, 3, or 4 randomly. Each index should have equal probability of returning.
solution.pick(3);

// pick(1) should return 0. Since in the array only nums[0] is equal to 1.
solution.pick(1);
```

```cpp
class Solution {
public:
    vector<int> nums;
    Solution(vector<int> nums) {
        this->nums = nums;
    }

    int pick(int target) {
        int ans=-1;
        int count=0;
        for(int i=0;i<nums.size();i++)
        {
            if(nums[i]==target)
            {
                if(++count==1) ans=i;
                else if(rand()%count==0) ans=i;
            }
        }
        return ans;
    }
};
```