# 136. Single Number

Given a non-empty array of integers, every element appears twice except for one. Find that single one.

Note:

Your algorithm should have a linear runtime complexity. Could you implement it without using extra memory?不采用多余的存储空间。

Example 1:

Input: [2,2,1]

Output: 1

Example 2:

Input: [4,1,2,1,2]

Output: 4

算法思路：

原理：任何数自己和自己**异或**肯定为0000; 任何数和0000异或都是这个数本身。

出现两次的数会异或两次，这样就变成0000；只有出现一次的数保留下来。

class Solution {

public int singleNumber(int[] nums) {

int singleNum = 0;

**for(int num:nums){**

**singleNum ^= num;**

**}**

return singleNum;

}

}