

238. Product of Array Except Self

APPROACH 1=> USING DIVIDE METHOD (PREFIX CALCULATION);

=> CALCULATE THE PRODUCT OF THE ARRAY

EDGE CASE=> IF ZERO EXIST IN THE ARRAY;

MULTIPLY ALL THE VALUES EXCEPT ZERO

And then replace all the values in nums with zero and the index of zero with product;

EDGE CASE=> IF ZERO not EXIST IN THE ARRAY;

$\text{Nums}[I] = \text{pro} / \text{nums}[I]$

=> because multiplying my element and dividing by same element do not change the value;

APPROACH 2=>

Using prefix and suffix calculation

Calculate the left product of every element and store in array named leftpro

Now calculate the right product of every element and store in an array named rightpro

Now change the value of nums by $\text{left}[I] * \text{right}[I]$

```

2 public:
3 int isfound(vector<int>& nums,int ele=0){
4     for(int i=0;i<nums.size();i++){
5         if(nums[i]==0){
6             return i;
7         }
8     }
9     return -1;
10 }
11 vector<int> productExceptSelf(vector<int>& nums) {
12
13     int pro=1;
14     for(int i=0;i<nums.size();i++){
15         pro*=nums[i];
16     }
17     int z=isfound(nums);
18
19     if(z!=-1){
20         int pro=1;
21         for(int i=0;i<nums.size();i++){
22             if(i!=z)
23                 pro*=nums[i];
24         }
25         for(int i=0;i<nums.size();i++){
26             if(i!=z){
27                 nums[i]=0;
28             }else{
29                 nums[i]=pro;
30             }
31         }
32     }
33
34
35     }else{
36         for(int i=0;i<nums.size();i++){
37
38             nums[i]=pro/nums[i];
39         }
40
41     }
42
43     return nums;

```

ved to local

onsole ^



```
class Solution {
public:
    vector<int> productExceptSelf(vector<int>& nums) {
        vector<int> right(nums.size());
        vector<int> left(nums.size());
        int l=1;

        for(int i=0;i<nums.size();i++){
            left[i]=l;
            l*=nums[i];
        }
        int r=1;

        for(int i=nums.size()-1;i>=0;i--){
            right[i]=r;
            r*=nums[i];
        }

        for(int i=0;i<nums.size();i++){
            nums[i]=right[i]*left[i];
        }
        return nums;
    }
};
```