Product array puzzle

Given an array **nums[]** of size **n**, construct a Product Array **P** (of same size n) such that **P[i]** is equal to the product of all the elements of **nums** except nums[i].

Input: n = 5
nums[] = {10, 3, 5, 6, 2}
Output: 180 600 360 300 900 **Explanation:**
For i=0, P[i] = 3*5*62 = *180.*
*For i=1, P[i] = 10*5*62* = 600.
For i=2, P[i] = 10*3*62 = *360.*
*For i=3, P[i] = 10*3*52* = 300.
For i=4, P[i] = 10*3*5*6 = 900.

Example 2:

Input: n = 2
nums[] = {12,0}
Output: 0 12

Your Task:
You do not have to read input. Your task is to complete the function **productExceptSelf()** that takes array nums[] and n as input parameters and returns a list of n integers denoting the product array P. If the array has only one element the returned list should should contains one value i.e {1}
**Note: **Try to solve this problem without using the division operation.

**Expected Time Complexity: **O(n)
**Expected Auxiliary Space: **O(n)

```
class Solution:
    def productExceptSelf(self, nums, n):
        #code here
        res = [0]*n
        product = 1
        flag = False
        count = 0
        for ele in nums:
            if ele!=0:
                product = product*ele
            else:
                flag = True
                count = count+1
```

```
        if flag and count>1:
            return res
        elif flag and count==1:
            for i in range(n):
                if nums[i]==0:
                    res[i] = product
        else:
            for i in range(n):
                res[i] = product//nums[i]
        return res
```