7th feb 2023

FIRST:-

Length of the longest subarray with positive product : : Medium

Given an array **arr[]** consisting of **n** integers, find the length of the longest subarray with **positive (non zero) product**.

Example 1:

```
Input:
arr[] ={0, 1, -2, -3, -4}
Output:
3
Explanation:
The longest subarray with positive product is:
{1, -2, -3}.Therefore, the required length is 3.
```

Example 2:

```
Input:
arr[]={-1, -2, 0, 1, 2}
Output:
2
Explanation:
The longest subarray with positive products
are: {-1, -2}, {1, 2}. Therefore, the required
length is 2.
```

Your Task: This is a function problem. You don't need to take any input, as it is already accomplished by the driver code. You just need to complete the function **maxLength**() that takes array **arr[],** and an integer **n** as parameters and return the length of the longest subarray where the product of all of its element is positive.

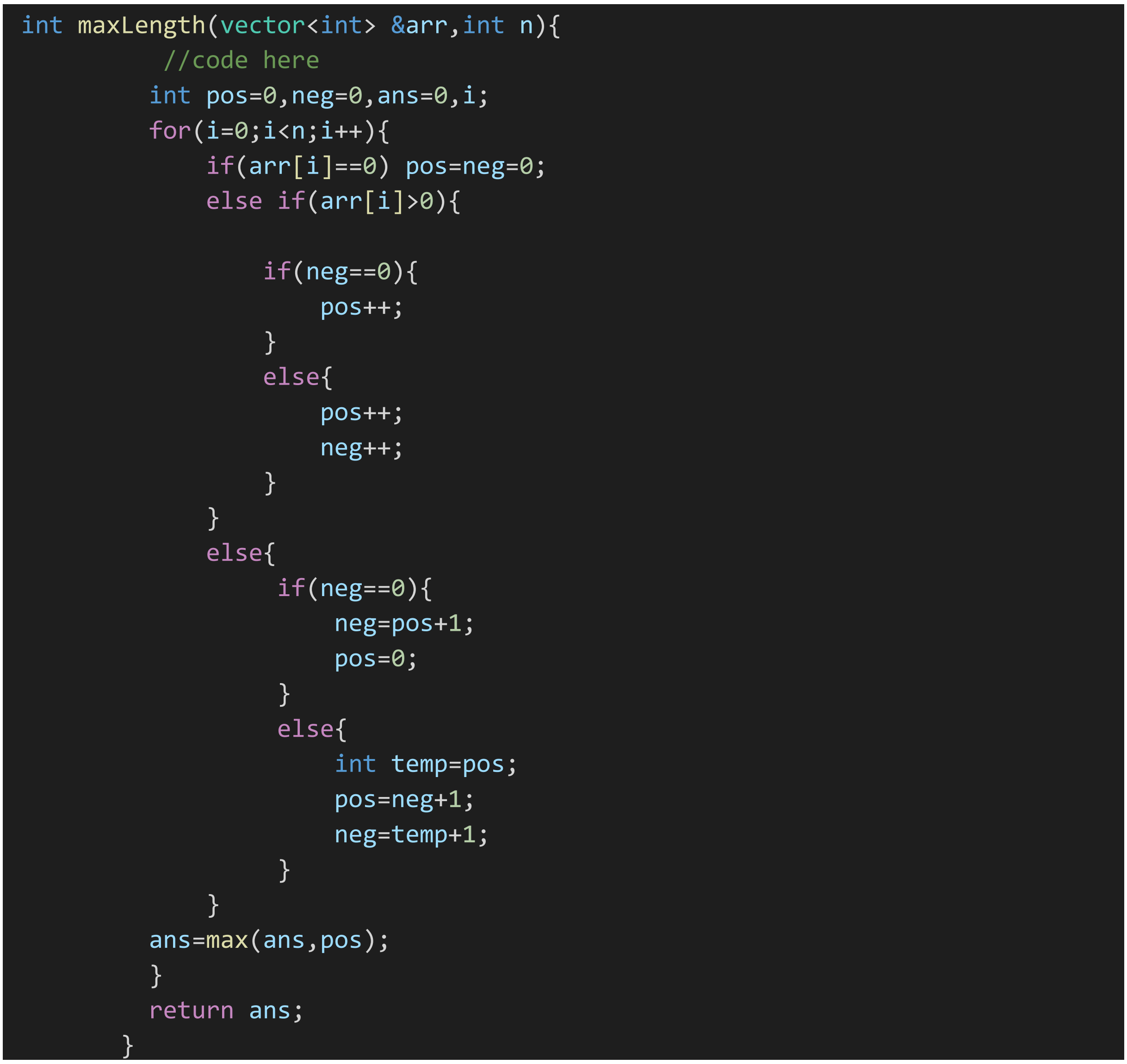
Expected Time Complexity: O(n).
Expected Auxiliary Space: O(1).

Constraints:

$1 <= n <= 10^5$

$-10^9 <= arr[i] <= 10^9$

CODE SECTION:-



```
int maxLength(vector<int> &arr,int n){
          //code here
         int pos=0,neg=0,ans=0,i;
         for(i=0;i<n;i++){
             if(arr[i]==0) pos=neg=0;
             else if(arr[i]>0){

                 if(neg==0){
                     pos++;
                 }
                 else{
                     pos++;
                     neg++;
                 }
             }
             else{
                  if(neg==0){
                      neg=pos+1;
                      pos=0;
                  }
                  else{
                      int temp=pos;
                      pos=neg+1;
                      neg=temp+1;
                  }
             }
         ans=max(ans,pos);
         }
         return ans;
       }
```

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