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#include <stdio.h>
#include <stdlib.h>

int min(int a, int b) { return a < b ? a: b; }
int max(int a, int b) { return a > b ? a: b; }

int maxSubArrayProduct(int arr[], int size)
{
    int currentMaxProduct = 1, currentMinProduct = 1, maximumSoFar = 1, temp;
    for(int index = 0; index < size; index++)
    {
        if(arr[index] > 0)
        {
            currentMaxProduct = currentMaxProduct * arr[index];
            currentMinProduct = min(currentMinProduct * arr[index], 1);
        }
        else if(arr[index] == 0)
            currentMaxProduct = currentMinProduct = 1;
        else
        {
            temp = currentMaxProduct;
            currentMaxProduct = max(currentMinProduct * arr[index], 1);
            currentMinProduct = temp * arr[index];
        }
        if(maximumSoFar < currentMaxProduct)
            maximumSoFar = currentMaxProduct;
    }
    return maximumSoFar;
}

int main()
{
    int *arr, size;
    printf("Enter size of the array\n");
    scanf("%d", &size);
    printf("Enter elements in array\n");
    for(int index = 0; index < size; index++)
        scanf("%d", &arr[index]);
    printf("Maximum sub array product is = %d", maxSubArrayProduct(arr, size));
    return 0;
}

```

Time complexity: $O(n)$
space complexity: $O(1)$