

Maximum of Array

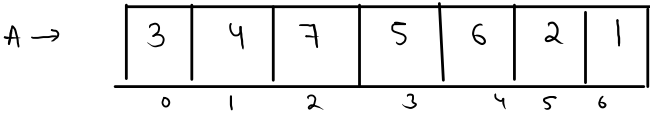
Problem

Submissions

Leaderboard

Discussions

For the given array having N elements, find the maximum element of the array.



$\text{max} = \cancel{-\infty} \quad 3$

$\overset{i}{\circlearrowleft} -\infty, 3$

$\text{sum} = 0$
 $\text{sum} += A[i]$
 \Downarrow
 $x = \textcircled{x + 0}$

$\text{prod} = 1$
 $\text{prod} \times = A[i]$
 $\textcircled{x = x \cdot 1}$

$\text{max} = -\infty$
 $x = \text{max}(x, -\infty)$

$\textcircled{-\infty, x}^{\text{max}}$
 \downarrow

$\textcircled{x, -\infty}$
 \downarrow

$\text{max} \left(\textcircled{x}, \underline{\underline{\text{int}}} \right) = x$

$$\max = 0$$

$$\begin{array}{cccc} -2 & -3 & -4 & -5 \\ \uparrow & & & \end{array}$$

$$\max = -\infty \quad -2$$

$$(2, -\infty)$$

$\max = -\infty$ // -ve most number.

$$\max(x, -\infty) = x$$

$\max =$ -2147483648

-2147483648 to 2147483647

$x = 72$

$$= \max(72, \text{span style="background-color: black; color: white; padding: 2px 10px;">-2147483648)$$

-2 $\rightarrow \max(-2, \text{span style="background-color: black; color: white; padding: 2px 10px;">-2147483648) = -2$

eg.

5
0

6

1

7

2

4

3

1

2

3

4

5

6

i

max = -2147483648 ~~8~~ ~~8~~ ~~8~~ ~~7~~ ~~7~~ ~~7~~ 7

```

1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13        //process
14        int max = Integer.MIN_VALUE; //-2147483648;
15        for(int i = 0; i < n; i++){
16            max = Math.max(A[i], max);
17        }
18        System.out.println(max);
19    }
20 }

```

sum = 0

0 + x = x

prod = 1 1 * x = x

max = -∞ -∞, x = x

```

// print
int max = Integer.MIN_VALUE; //-2147483648;
for(int i = 0; i < n; i++){
    // max = Math.max(A[i], max);
    if(A[i] > max){
        max = A[i];
    }
}
System.out.println(max);

```

$i=1$

$4 > 1$

2

$2 < 3$ ✓

$3 > 4$ ✗

3

$3 < 3$ ✗

$\textcircled{1}$	4	3
0	1	2

$\max =$

~~$-\infty$~~ $\textcircled{4}$

$i=0$

$0 < 3$ ✓

$1 > -\infty$ ✓

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10        for(int i = 0; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13        //process
14        int max = Integer.MIN_VALUE;//-2147483648;
15        for(int i = 0; i < n; i++){
16            // max = Math.max(A[i], max);
17            if(A[i] > max){
18                max = A[i];
19            }
20        }
21        System.out.println(max);
22    }
23 }
```

```
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8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13        //process
14        int max = A[0];
15        for(int i = 0; i < n; i++){
16            // max = Math.max(A[i], max);
17            if(A[i] > max){
18                max = A[i];
19            }
20        }
21        System.out.println(max);
22    }
23 }
```

3
0

1
1

4

2

2

3

0
2

max = 3
4
2

(A[0])

if (A[i] > max)
{
}

1 > 3
4 > 3

2 > 4

GKSTR35 Count_Even

Problem

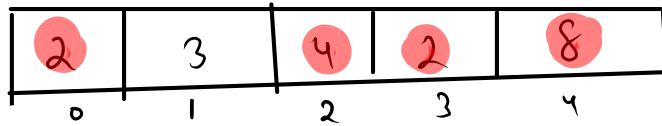
Submissions

Leaderboard

Discuss

Given an integer n , the task is to define an integer array `arr[]` of size n &

Print the **Count / Number of even elements** in the array.



Ans = 4

$A[i] \% 2 == 0$
↘ even
count++

Sample Input 0

5
2
3
4
2
8

Sample Output 0

4


```

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8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0 ; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13
14        int count = 0;
15        for(int i = 0 ; i < n; i++){
16            if(A[i] % 2 == 0){
17                count++;
18            } else { oddcount++ }
19        }
20        System.out.println(count);
21    }
22 }

```

$n=5$

2	3	4	2	8
0	1	2	3	4

count = ~~0~~ ~~1~~ ~~2~~ ~~3~~ (4)
 $i=0$ $0 < 5$ ✓

$8 / 2 = 0$

$5 < 5$ ✗

$i=1$

(1 < 5) ✓

$2 / 2 = 0$

$i=2$

$2 < 5$ ✓

$3 / 2 = 1$ ✗

$i=3$

$3 < 5$ ✓

$i=4$

(4 < 5) ✓

$n - \text{count}$

Product of Elements Except Itself

Problem

Submissions

Leaderboard

Discussions

Declare the first array of size **n** that stores values of int data-type. Then take **n** integer inputs and store them in the array one by one.

For each index print the **product** of all the elements except the element present at that index..

eg1.

3

2	5	3
0	1	2

$$\text{prod} / A[i]$$

15	6	10
----	---	----

eg2.

	2	0	5	x	3
	0	30	0	0	
→	0	prod	0	0	

eg. 2.1 12 zero

1	0	2	4
0	8	0	0
0	prod	0	0

expected ans =

more than 1 zero

eg 3.

1	0	0	0	2	4
0	0	0	0	0	0

expected.

Sample Input 0

```
3
2
5
3
```

Sample Output 0

```
15
6
10
```

$2 \times 5 \times 3 = 30$

find.
prod = 30
ignore zero

prod except zero = 1.2.4 = 8

```

1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
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6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0 ; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13
14        //logic start
15        //ans array
16        int [] ans = new int[n];
17        int prod = 1;
18        int zero = 0;
19        for(int i = 0; i < n; i++){
20            if(A[i] != 0){
21                prod *= A[i];
22            }else{
23                zero++;
24            }
25        }
26        if(zero == 0){
27            for(int i = 0; i < n; i++){
28                ans[i] = prod/A[i];
29            }
30        }else if(zero == 1){
31            for(int i = 0; i < n; i++){
32                if(A[i] == 0){
33                    ans[i] = prod;
34                }
35            }
36        }
37        //print
38        for(int i = 0; i < n; i++){
39            System.out.println(ans[i]);
40        }
41    }
42 }

```

eg 1. no zero (zero = 0)

n=4

1	2	4	2
0	1	2	3

expected

ans. →
= prod / A[i]

16	8	4	8
----	---	---	---

dry run.

prod = 16 zero = 0

16	8	4	8
3	4		

$$ans[3] = 16 / 2 = 8$$

$$prod = 16$$

prod
except = 16
zero

```

14 //ans array
15 int [] ans = new int[n];
16 int prod = 1;
17 int zero = 0;
18 for(int i = 0; i < n; i++){
19     if(A[i] != 0){
20         prod *= A[i];
21     }else{
22         zero++;
23     }
24 }
25 if(zero == 0){
26     for(int i = 0; i < n; i++){
27         ans[i] = prod/A[i];
28     }
29 }else if(zero == 1){
30     for(int i = 0; i < n; i++){
31         if(A[i] == 0){
32             ans[i] = prod;
33         }
34     }
35 }
36 //print
37 for(int i = 0; i < n; i++){
38     System.out.println(ans[i]);
39 }
40 }

```

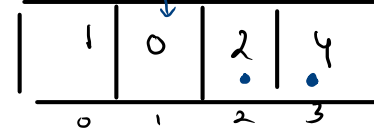
Case 2: →

zero = 1

n = 4

count of zero is 1.

A →



prod
except
zero

expected

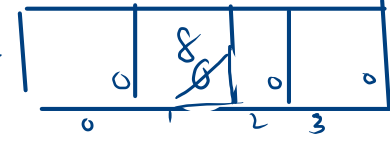
0 8 0 0

dry run.

Ans →

prod = 1/1 2 8

zero = 1



i = 0

0 < 4

A[0] = 0

1

1 < 4

A[1] = 0

2 < 4 ✓

3 < 4 ✓

4 < 4 ✗

Case 3:- more than 1 zero.

$n = 5$

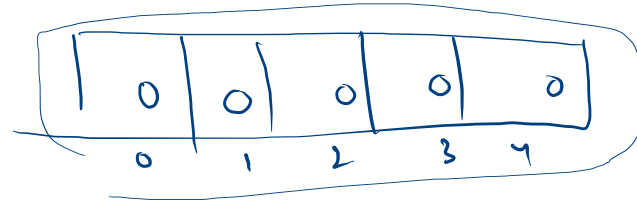
A →

1	0	0	2	4
0	1	2	3	4

expected -

0	0	0	0	0
---	---	---	---	---

Ans →



prod = 8
zero = 2

```
//ans array
15 int [] ans = new int[n];
16 int prod = 1;
17 int zero = 0;
18 for(int i = 0; i < n; i++){
19     if(A[i] != 0){
20         prod *= A[i];
21     }else{
22         zero++;
23     }
24 }
25 if(zero == 0){
26     for(int i = 0; i < n; i++){
27         ans[i] = prod/A[i];
28     }
29 }else if(zero == 1){
30     for(int i = 0; i < n; i++){
31         if(A[i] == 0){
32             ans[i] = prod;
33         }
34     }
35 }
36 //print
37 for(int i = 0; i < n; i++){
38     System.out.println(ans[i]);
39 }
40 }
```

```

2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0 ; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13
14        //logic start
15        //ans array
16        int [] ans = new int[n];
17        int prod = 1;
18        int zero = 0;
19        for(int i = 0; i < n; i++){
20            if(A[i] != 0){
21                prod *= A[i];
22            }else{
23                zero++;
24            }
25        }
26        if(zero == 0){
27            for(int i = 0; i < n; i++){
28                ans[i] = prod/A[i];
29            }
30        }else if(zero == 1){
31            for(int i = 0; i < n; i++){
32                if(A[i] == 0){
33                    ans[i] = prod;
34                }
35            }
36        }
37        //print
38        for(int i = 0; i < n; i++){
39            System.out.println(ans[i]);

```

{

Case 1: $zero == 0$

 Case 2: $\# zero == 1$

 Case 3: $zero > 1$

Check Characterstic

Problem

Submissions

Leaderboard

D

For each index,

Store 1 at that index if the element at that index is greater than zero.

Store 0 at the index if the element at that index is equal to zero.

Store -1 at the index if the element at that index is less than zero.

In the end print the complete array one by one.

Sample Input 0

```
5
-12 23 0 12 -19
```

$n = 5$

Sample Output 0

```
-1 1 0 1 -1
```

-1	1	0	1	-1
-12	23	0	12	-19
0	1	2	3	4

?

```
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8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0 ; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13        //logic
14        for(int i = 0 ; i < n; i++){
15            if(A[i] > 0){
16                A[i] = 1;
17            }else if(A[i] < 0){
18                A[i] = -1;
19            }
20        }
21
22        //output
23        for(int i = 0 ; i < n; i++){
24            System.out.print(A[i] + " ");
25        }
26
27    }
28 }
```