

GKSTR35 Count_Even

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.

Sample Input 0

5
2
3
4
2
8

✓	✓	✓	✓	
2	3	4	2	8
0	1	2	3	4

Sample Output 0

4

✓	✓			✓
10	14	13	9	2
0	1	2	3	4

ans = 3

i/p { n
Array.
for → array
check even
b.c++

$n = 5$

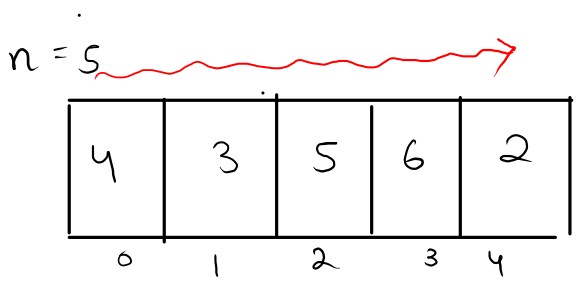
$ans = 3$

10	12	13	9	4
0	1	2	3	4

```
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
14        int count = 0;
15        for(int i = 0; i < n; i++){
16            if(A[i] % 2 == 0){
17                count++;
18            }
19        }
20        System.out.println(count);
21    }
22 }
```

Maximum of Array

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



max = 6

logic.
 assume.
 max = A[0]

$max = \text{Math.max}(max, A[i])$

```
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
14        //max logic
15        int max = A[0];
16        for(int i = 0 ; i < n; i++){
17            max = Math.max(A[i], max);
18        }
19        System.out.println(max);
20    }
21 }
```

max = 4

$i = 0$ $0 < 5$ ✓

max = 4, 4

Check Characteristic

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.

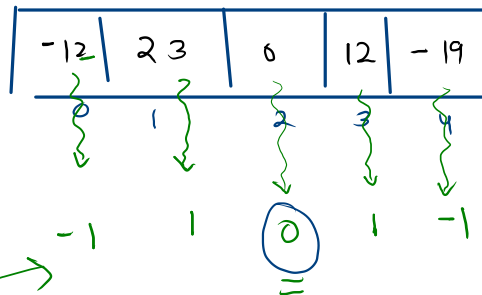
✓ Store -1 at the index if the element at that index is less than zero.

Sample Input 0

5
-12 23 0 12 -19

Sample Output 0

-1 1 0 1 -1



```
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
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        //print
23        for(int i = 0; i < n; i++){
24            System.out.print(A[i] + " ");
25        }
26    }
27 }
```

Update query 1

Given an array of size n with initial values. Take **left**, **right** as integer inputs such that $0 \leq \text{left}, \text{right} < \text{arr.length}$ and also take x as an integer input.

Then update the given array from the index-left till the index-right (both left index and right index included) with the element x . In the end print all the elements of the array such that each element is printed in a separate line.

Sample Input 0

```
10
1 2 3 4 5 6 7 8 9 10
2 8
0
```

Sample Output 0

```
1 2 0 0 0 0 0 0 0 10
```

$n = 10$

1	2	3	4	5	6	7	8	9	10
0	1	2	3	4	5	6	7	8	9

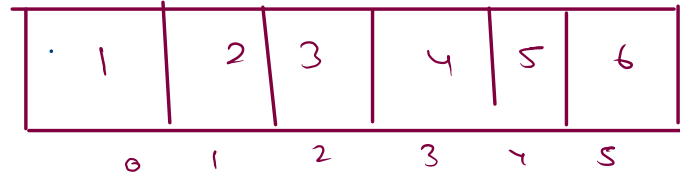
$l = 2$

$r = 8$

$x = 0$

1
2
0
0
0
:
10

$n=6$



```
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        int l = scn.nextInt();
14        int r = scn.nextInt();
15        int x = scn.nextInt();
16
17        //logic
18        for(int i = l; i <= r; i++){
19            A[i] = x;
20        }
21        //print
22        for(int i = 0; i < n; i++){
23            System.out.print(A[i] + " ");
24        }
25    }
26 }
```

$l = 1$

$r = 3$

$x = 5$

Product of Elements Except Itself

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..

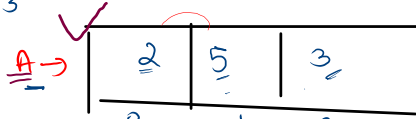
Sample Input 0

```
3
2
5
3
```

Sample Output 0

```
15
6
10
```

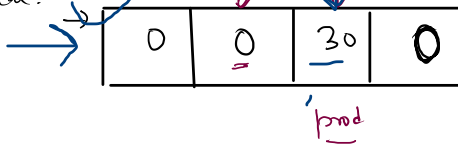
$n=3$



Case 2.
(1 zero)



ideal.



Case 1
(no zero)

prod \rightarrow non zero

prod = 30 (all)

prod
A[i]

prod non zero
= 30

2	5	0	3
0	0	30	0
$5 \times 0 \times 3$	$2 \times 0 \times 3$	$2 \times 5 \times 3$	$2 \times 5 \times 0$

\downarrow
prod
non
zero

Case 3
(more than 1
2's)

A →
11

2	5	0	0	3
---	---	---	---	---

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

5x0	2	2	2	2
x0	x	x5	5	5
x3	0	x0	0	0
	x0	x3	3	0
	x3			

0 0 0 0 0

- How many 2's
- prod of non 2's

2	3	5
---	---	---

$$\text{zero} = 0$$

$$\text{prod} = 30$$

✓ 15	10	6
$30/2$	$30/3$	$30/5$

```

1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5     public static int [] productExceptSelf(int [] A){
6         int [] ans = new int[A.length];
7
8         //calc 2 imp factor
9         int zero = 0;
10        int prod = 1;    //prod of non zero
11        for(int i = 0; i < A.length; i++){
12            if(A[i] == 0){
13                zero++;
14            }else{    // non zero
15                prod *= A[i];
16            }
17        }
18
19        //case 1: zero = 0
20        if(zero == 0){
21            for(int i = 0; i < ans.length; i++){
22                ans[i] = prod/A[i];
23            }
24        }
25        //case 2: zero = 1
26        else if(zero == 1){
27            for(int i = 0; i < ans.length; i++){
28                if(A[i] == 0){
29                    ans[i] = prod;
30                }
31            }
32        }
33        return ans;
34    }
35 }

```

```

36 public static void main(String[] args) {
37     Scanner scn = new Scanner(System.in);
38     int n = scn.nextInt();
39     int [] A = new int[n];
40
41     for(int i = 0; i < n; i++){
42         A[i] = scn.nextInt();
43     }
44
45     int [] ans = productExceptSelf(A);
46
47     for(int i = 0; i < ans.length; i++){
48         System.out.println(ans[i]);
49     }
50 }
51 }
52 }

```