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# Arrays: Left Rotation

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Check out the resources on the page's right side to learn more about arrays. The video tutorial is by Gayle Laakmann McDowell, author of the best-selling interview book [Cracking the Coding Interview](#).

A *left rotation* operation on an array of size  $n$  shifts each of the array's elements 1 unit to the left. For example, if 2 left rotations are performed on array  $[1, 2, 3, 4, 5]$ , then the array would become  $[3, 4, 5, 1, 2]$ .

Given an array of  $n$  integers and a number,  $d$ , perform  $d$  left rotations on the array. Then print the updated array as a single line of space-separated integers.

## Input Format

The first line contains two space-separated integers denoting the respective values of  $n$  (the number of integers) and  $d$  (the number of left rotations you must perform).

The second line contains  $n$  space-separated integers describing the respective elements of the array's initial state.

## Constraints

- $1 \leq n \leq 10^5$
- $1 \leq d \leq n$
- $1 \leq a_i \leq 10^6$

## Output Format

Print a single line of  $n$  space-separated integers denoting the final state of the array after performing  $d$  left rotations.

## Sample Input

```
5 4
1 2 3 4 5
```

## Sample Output

```
5 1 2 3 4
```

## Explanation

When we perform  $d = 4$  left rotations, the array undergoes the following sequence of changes:

$$[1, 2, 3, 4, 5] \rightarrow [2, 3, 4, 5, 1] \rightarrow [3, 4, 5, 1, 2] \rightarrow [4, 5, 1, 2, 3] \rightarrow [5, 1, 2, 3, 4]$$

Thus, we print the array's final state as a single line of space-separated values, which is 5 1 2 3 4.

Submissions: 33543

Max Score: 20


Difficulty: Easy

Rate This Challenge:

★★★★★

Need Help?

10:08

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C#



```
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 class Solution {
6
7     static void Main(String[] args) {
8         string[] tokens_n = Console.ReadLine().Split(' ');
9         int n = Convert.ToInt32(tokens_n[0]);
10        int d = Convert.ToInt32(tokens_n[1]);
11        string[] a_temp = Console.ReadLine().Split(' ');
12        int[] a = Array.ConvertAll(a_temp, e=>int.Parse(e));
13
14
15        d = d % a.Length;
16        int indiceUltimo = (a.Length - 1) - d;
17        //Console.WriteLine(indiceUltimo);
18
19        int indiceEmpieza = (a.Length - 1) - indiceUltimo;
20
21        for (int i = indiceEmpieza; i < a.Length; i++)
22        {
23            Console.Write(a[i] + " ");
24        }
25        for (int i = 0; i < indiceEmpieza; i++)
26        {
27            Console.Write(a[i] + " ");
28        }
29    }
30 }
31
```

Line: 18 Col: 1

 [Upload Code as File](#) ☐ Test against custom input[Run Code](#)[Submit Code](#)

### Congrats, you solved this challenge!

✓ Test Case #0

✓ Test Case #3

✓ Test Case #6

✓ Test Case #9

✓ Test Case #1

✓ Test Case #4

✓ Test Case #7

✓ Test Case #2

✓ Test Case #5

✓ Test Case #8

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