

Arrays: Left Rotation

by [saikiran9194](#)**CRACKING**
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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: 274

Max Score: 20

Difficulty: Easy

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Current Buffer (saved locally, editable)

C++

```
1 #include <map>
2 #include <set>
3 #include <list>
4 #include <cmath>
5 #include <ctime>
6 #include <deque>
7 #include <queue>
8 #include <stack>
9 #include <string>
10 #include <bitset>
11 #include <cstdio>
12 #include <limits>
13 #include <vector>
14 #include <climits>
15 #include <cstring>
16 #include <cstdlib>
17 #include <fstream>
18 #include <numeric>
19 #include <sstream>
20 #include <iostream>
21 #include <algorithm>
22 #include <unordered_map>
23
24 using namespace std;
25
26 vector<int> array_left_rotation(vector<int> a, int n, int k) {
27
28 }
29
30 int main(){
31     int n;
32     int k;
33     cin >> n >> k;
34     vector<int> a(n);
35     for(int a_i = 0; a_i < n; a_i++){
36         cin >> a[a_i];
37     }
38     vector<int> output = array_left_rotation(a, n, k);
39     for(int i = 0; i < n; i++)
40         cout << output[i] << " ";
41     cout << endl;
42     return 0;
43 }
44
```

Line: 1 Col: 1

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