

Problem 1 - Powers

Numbers have powers! They can transform themselves. One transformation is done by replacing:

- each 0 - with the absolute difference of its neighboring numbers
- all other even numbers - with the maximum of its neighboring numbers
- each 1 - with the sum of its neighboring numbers
- all other odd numbers - with the minimum of its neighboring numbers

The leftmost and rightmost numbers **are** neighbors.

A K-sum of a sequence is the sum of the numbers after **K** transformations of the sequence. Your task is to find the K-sum of a given sequence.

Input

The input data is given as a parameter – an array of strings.

On the first input line there will be the numbers **N** and **K** separated by a space. On the second input line are **N** numbers – the sequence.

Output

The output should be printed on the console.

Output the K-sum of the given sequence.

Sample solution code (in JavaScript)

```
function solve(params) {  
    var nk = params[0].split(' ').map(Number),  
        s = params[1].split(' ').map(Number),  
        result;  
  
    // Your solution here  
  
    console.log(result);  
}
```

Constraints

- $3 \leq N \leq 100$
- $0 \leq K \leq 20$
- Initially, each number in the sequence is a single digit non-negative integer
- Allowed working time for your program: **0.3 seconds**.
- Allowed memory: **16 MB**.

Examples

Input	Output
5 1 9 0 2 4 1	26

10 3 1 9 1 9 1 9 1 9 1 9	365
10 10 0 1 2 3 4 5 6 7 8 9	42