

A. Increasing Sequence

time limit per test: 1 second

memory limit per test: 64 megabytes

A sequence a_0, a_1, \dots, a_{t-1} is called increasing if $a_{i-1} < a_i$ for each i : $0 < i < t$.

You are given a sequence b_0, b_1, \dots, b_{n-1} and a positive integer d . In each move you may choose one element of the given sequence and add d to it. What is the least number of moves required to make the given sequence increasing?

Input

The first line of the input contains two integer numbers n and d ($2 \leq n \leq 2000$, $1 \leq d \leq 10^6$). The second line contains space separated sequence b_0, b_1, \dots, b_{n-1} ($1 \leq b_i \leq 10^6$).

Output

Output the minimal number of moves needed to make the sequence increasing.

Examples

input	Copy
4 2	
1 3 3 2	
output	Copy
3	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 11

Finished

Practice



→ Virtual participation

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Language: GNU G++23 14.2 (64 bit, ms) ▼

Choose file: [Choose File](#) No file chosen

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Submission	Time	Verdict
325654797	Jun/23/2025 11:12	Accepted

→ **Problem tags**

constructive algorithms implementation

math *900

No tag edit access

→ **Contest materials**

- Announcement (en) ✕

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