A. Increasing Sequence

time limit per test: 1 second
memory limit per test: 64 megabytes

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

You are given a sequence $b_0, b_1, ..., b_{n-1}$ 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 ($2 \le n \le 2000$, $1 \le d \le 10^6$). The second line contains space separated sequence $b_0, b_1, ..., b_{n-1}$ ($1 \le b_i \le 10^6$).

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
```

→ **Problem tags**

constructive algorithms | implementation | math | *900

No tag edit access

→ **Contest materials**

- Announcement (en)