

Problem: GUARDS

Time Limit: 2.0 seconds

Memory Limit: 64 MB

Problem Description Jacob is jailing up his political opponents to consolidate his power, and has locked his N political opponents up in adjacent jail cells numbered from 0 to $N - 1$. He also hired G guards to make sure they don't escape, and guards can take charge of adjacent segments of prison cells. Each prison cell is only assigned to one guard.

Each prisoner i has a certain intelligence S_i , and if the guard watching over him has k people in total to watch over, his *escaping possibility* will be kS_i . Help Jacob assign the guards so as to minimise the total *escaping possibility* over all the prisoners.

Input Format The first line of input contains two integers, N and G . The next N lines of input will contain one integer each, S_i for each prisoner.

Output Format The output should contain one line with one integer, the minimum escaping possibility.

Limits These are the bounds on the input.

Subtask	Score	Additional Bounds
1	10	$1 \leq N, G \leq 100$
2	43	$1 \leq N, G \leq 500$
3	47	$1 \leq G \leq 3,000, 1 \leq N \leq 8,000$
All	-	$1 \leq S_i \leq 10^9$

Sample Input

```
6 3
11
11
11
24
26
100
```

Sample Output

299