Gravity Power Plant

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	1024 megabytes

A gravity power plant is a power plant that generates energy using gravitational force. A gravity power plant consists of $N + 1$ areas aligned vertically. The areas are numbered sequentially from 0 to N. The uppermost area is numbered 0, and the lowermost area is numbered N.

To operate a gravity power plant, a ball is dropped from area 0 to area N. Between two adjacent areas, there is a ring shaped generator that can detect a falling ball. Specifically, the ring shaped generator generates A_i energy when the ball falls from area $i - 1$ to area i where $1 \leq i \leq N$.

To increase the energy output of the gravity power plant, scientists have developed an **anti-gravity device**. There are $\frac{N(N+1)}{2}$ anti-gravity devices in total at a gravity power plant, and each device is assigned an integer pair (i, j) where $0 \leq i < j \leq N$. An anti-gravity device assigned to (i, j) can be used to defy gravity and move a ball at area j to area i. Since the ring shaped generator operates independently each time the ball falls through, the anti-gravity devices can be used to make a generator generate energy multiple times.

However, anti-gravity devices can make the gravity power plant unstable, so there are some limitations to their usage.

1. Activating an anti-gravity device costs K energy for each area the ball moves back up. Thus, activating a device assigned to (i, j) costs $K \times (j - i)$ energy.
2. Each anti-gravity device can be used at most once.
3. Anti-gravity devices can be used at most M times in total. It is not necessary to use the devices a total of M times.

Energy generation always begins with the ball initially placed at area 0, and must end with the ball at area N. However, an anti-gravity device can be used even if the ball has reached area N.

Find the maximum total energy that can be generated using the anti-gravity devices appropriately.

Input

The first line of input contains three space-separated integers N, M, K. ($1 \leq N \leq 100\,000$; $0 \leq M \leq \min(\frac{N(N+1)}{2}, 10^9)$; $0 \leq K \leq 10^9$)

The second line of input contains N space-separated integers $A_1, A_2, \cdots, A_N$. ($1 \leq A_i \leq 10^9$; $\sum A_i \leq 10^9$)

Output

Print the maximum total energy that can be generated in the first line.

Examples

standard input	standard output
7 1 5 9 7 4 3 3 8 8	49
4 3 100 1 2 3 4	10
5 5 4 7 3 7 3 7	52

Note

For the first example, energy can be generated as follows.

1. The ball is dropped from area 0 to area 7. This generates $9 + 7 + 4 + 3 + 3 + 8 + 8 = 42$ energy.
2. An anti-gravity device is used to move the ball from area 7 to area 0. This spends $5 \times 7 = 35$ energy.
3. The ball is dropped again from area 0 to area 7. This generates 42 energy, the same as in step 1.

The total energy generated is $42 - 35 + 42 = 49$, and it can be proven that this is the maximum total energy that can be generated.

For the second example, it is better to not use the anti-gravity device at all. Simply dropping the ball generates $1 + 2 + 3 + 4 = 10$ amount of energy.