B. Marvolo Gaunt's Ring

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Professor Dumbledore is helping Harry destroy the Horcruxes. He went to Gaunt Shack as he suspected a Horcrux to be present there. He saw Marvolo Gaunt's Ring and identified it as a Horcrux. Although he destroyed it, he is still affected by its curse. Professor Snape is helping Dumbledore remove the curse. For this, he wants to give Dumbledore exactly x drops of the potion he made.

Value of x is calculated as maximum of $p \cdot a_i + q \cdot a_j + r \cdot a_k$ for given p, q, r and array $a_1, a_2, \ldots a_n$ such that $1 \le i \le j \le k \le n$. Help Snape find the value of x. Do note that the value of x may be negative.

Input

First line of input contains 4 integers n, p, q, r ($-10^9 \le p, q, r \le 10^9$, $1 \le n \le 10^5$).

Next line of input contains n space separated integers $a_1, a_2, \ldots a_n$ ($-10^9 \le a_i \le 10^9$).

Output

Output a single integer the maximum value of $p \cdot a_i + q \cdot a_j + r \cdot a_k$ that can be obtained provided $1 \le i \le j \le k \le n$.

Examples

input
5 1 2 3 1 2 3 4 5
output
30

input
5 1 2 -3 -1 -2 -3 -4 -5
output
12

Note

In the first sample case, we can take $i = j = k = 5$, thus making the answer as $1 \cdot 5 + 2 \cdot 5 + 3 \cdot 5 = 30$.

In second sample case, selecting $i = j = 1$ and $k = 5$ gives the answer 12.