

## Maximise The Function

There are N integers  $A_0, A_1, \dots, A_{n-1}$ .

Consider a function  $f(x) = \sum_{i=0}^{i=n-1} (A_i * \text{bit}(i))$ , where bit (i) is the  $i^{\text{th}}$  bit in the number x.

A number m is also given.

Output the maximum value of f (x) where  $x \in [0, m]$ .

## Input

N : Number of integers

Next Line contains N integers  $A_0, A_1, \dots, A_{n-1}$

Next Line Contains m in binary representation as a string  $s_0s_1\dots s_{n-1}$

Where  $m = \sum_{i=0}^{i=n-1} 2^i * s_i$

## Constraints

$1 \leq N \leq 100000$

$1 \leq A_i \leq 100000$

## Output

The maximum value of the function f (x),  $x \in [0, m]$

## Sample Input

2  
3 8  
10

## Output

3

## Explanation

$m = 1$ , so x can be 0 or 1,  $f(0) = 0$ ,  $f(1) = 3$ . Hence 3 is the answer.

