Tsuk

SEASON 9 – SECOND ROUND

You are playing a game with the following rules:

- At the beginning of the game a subset D of the digits {2,3,5,7} is chosen
- The players take turns counting from 1, but instead of saying the number, they say the word “tsuk” some number of times:
    - Once for each digit of the decimal representation of the number, that is part of D
    - Once for each time a digit from D divides the number

For example if D = {5, 7} for the number 75 you need to say “tsuk” 4 times - the numbers contains 5 and 7 and is divisible by 5 twice (it is divisible by 25).

In the spirit of the game your turn has come and you have forgotten for which number you need to say “tsuk”. Fortunetly you remember how many times “tsuk” was said for the last N numbers.

Write a program that finds what you need to say next.

Input

From the first line of the input file `tsuk.in` M is entered - the size of the set D

From the next line the elements of D are entered.

Next is N - the number of numbers you remember

On the last line N numbers are entered - the number of times “tsuk” was said for the last N numbers in the order in which they were said.

Output

In the output file `tsuk.out` print the number of times you need to say “tsuk”.

If there are multiple possible answers, print the one that corresponds to the smallest number. It is guaranteed, that the number you need to say “tsuk” for is no more than 1000000.

Constraints

$1 \leq M \leq 4$

$1 \leq N \leq 100000$

$0 \leq Number\ of\ "tsuk"\ for\ each\ number$

Time limit: 0.5 seconds
Memory limit: 256 MB

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Example

Input (tsuk.in)	Output (tsuk.out)	Explanation
2 5 7 5 0 3 0 1 1	0	For D={5,7} the sequence 0 3 0 1 1 occurs first for the numbers 24 25 26 27 28. Therefore you need to print the number of “tsuk” for 29, i.e. 0.