

Vector Prime

Your task is to write a short program that takes in input an array A of N elements, and gives in output an array B that contains only **prime numbers**. If the array B contains no prime numbers, the output should be "EMPTY".

TIPS:

A **prime number** (or a **prime**) is a natural number greater than 1 that is not a product of two smaller natural numbers.

Input

The first line contains a number N that is the expected numbers of the array A.

The second line contains all the N numbers divided by space " ".

Output

The output contains the array B.

Sample input

Sample output

4 12 3 17 45	3 17
5 15 65 77 89 90	89
3 44 45 46	EMPTY