CENG315

Homework #3

(Due: November 26th, Friday 23:55)

If any number (except the last one) in a sequence of numbers can divide the next number without a remainder, we can name this kind of number series as **multiplicand sequence**. Assume that we have N natural numbers. Your job is to find the longest possible multiplicand sequence from these natual numbers. Note that;

- $1 \leq N \leq 10000$
- A number can be given more than once.
- All numbers that can be given are covered by the `unsigned long long int` type.

Input Specification

The input will be given in a file named "hw3.inp". First line of the input file will contain an integer that refers to the value of N. The following line will contain N integers which refer to the natural numbers.

Output Specification

The output should be printed in a file named "hw3.out". First line should contain the length of the longest multiplicand sequence. The next line should contain that multiplicand sequence. If there are more than one multiplicand sequence in that length, print one of them.

Sample Input:

8
6 5 1 3 2 11 4 12

Sample Output:

4
1 2 6 12

Limits

Time limit for an input: 1 sec

Memory Limit: 32 mb

Specifications

- All the work should be done individually. Your homeworks will be checked for cheating. In case you cheat, you will get 0 from all your homeworks and disciplinary action will be taken.
- Submit a single file called *hw3.c / hw3.cpp* through the COW system.
- An autograder is available which will grade your homework with real inputs. The grade you get from autograder is final if there isn't any cheating issues.
- You can use the autograder up to 3 times per day.
- Late submission isn't allowed.