

E. Fox And Dinner

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Fox Ciel is participating in a party in Prime Kingdom. There are n foxes there (include Fox Ciel). The i -th fox is a_i years old.

They will have dinner around some round tables. You want to distribute foxes such that:

1. Each fox is sitting at some table.
2. Each table has at least 3 foxes sitting around it.
3. The sum of ages of any two adjacent foxes around each table should be a prime number.

If k foxes f_1, f_2, \dots, f_k are sitting around table in clockwise order, then for $1 \leq i \leq k - 1$: f_i and f_{i+1} are adjacent, and f_1 and f_k are also adjacent.

If it is possible to distribute the foxes in the desired manner, find out a way to do that.

Input

The first line contains single integer n ($3 \leq n \leq 200$): the number of foxes in this party.

The second line contains n integers a_i ($2 \leq a_i \leq 10^4$).

Output

If it is impossible to do this, output "Impossible".

Otherwise, in the first line output an integer m ($1 \leq m \leq \frac{n}{3}$): the number of tables.

Then output m lines, each line should start with an integer k — the number of foxes around that table, and then k numbers — indices of fox sitting around that table in clockwise order.

If there are several possible arrangements, output any of them.

Examples

input

4

3 4 8 9

output

1

4 1 2 4 3

input

5

2 2 2 2 2

output

Impossible

input

12

2 3 4 5 6 7 8 9 10 11 12 13

output

1

12 1 2 3 6 5 12 9 8 7 10 11 4

input

24

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Codeforces Round #290 (Div. 2)

Finished

Practice

Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

Submit?

Language: GNU G++11 5.1.0

Choose file: 选择文件 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

Problem tags

flows *2800

No tag edit access

Contest materials

Announcement #1 (en)

Announcement #2 (ru)

Tutorial (en)

output

Copy

```
3
6 1 2 3 6 5 4
10 7 8 9 12 15 14 13 16 11 10
8 17 18 23 22 19 20 21 24
```

Note

In example 1, they can sit around one table, their ages are: 3-8-9-4, adjacent sums are: 11, 17, 13 and 7, all those integers are primes.

In example 2, it is not possible: the sum of $2+2 = 4$ is not a prime number.

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