

### C. Crazy Diamond

time limit per test: 3 seconds  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

You are given a permutation  $p$  of integers from 1 to  $n$ , where  $n$  is an even number.

Your goal is to sort the permutation. To do so, you can perform zero or more operations of the following type:

- take two indices  $i$  and  $j$  such that  $2 \cdot |i - j| \geq n$  and swap  $p_i$  and  $p_j$ .

There is **no need to minimize** the number of operations, however you should use no more than  $5 \cdot n$  operations. One can show that it is always possible to do that.

#### Input

The first line contains a single integer  $n$  ( $2 \leq n \leq 3 \cdot 10^5$ ,  $n$  is even) — the length of the permutation.

The second line contains  $n$  distinct integers  $p_1, p_2, \dots, p_n$  ( $1 \leq p_i \leq n$ ) — the given permutation.

#### Output

On the first line print  $m$  ( $0 \leq m \leq 5 \cdot n$ ) — the number of swaps to perform.

Each of the following  $m$  lines should contain integers  $a_i, b_i$  ( $1 \leq a_i, b_i \leq n$ ,  $|a_i - b_i| \geq \frac{n}{2}$ ) — the indices that should be swapped in the corresponding swap.

Note that there is no need to minimize the number of operations. We can show that an answer always exists.

#### Examples

input	Copy
2 2 1	
output	Copy
1 1 2	

input	Copy
4 3 4 1 2	
output	Copy
4 1 4 1 4 1 3 2 4	

input	Copy
6 2 5 3 1 4 6	
output	Copy
3 1 5 2 5 1 4	

#### Note

#### Codeforces Global Round 3

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:  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

#### → Last submissions

Submission	Time	Verdict
<a href="#">54925150</a>	Jun/01/2019 18:01	Accepted
<a href="#">54924766</a>	Jun/01/2019 17:59	Wrong answer on pretest 5
<a href="#">54924264</a>	Jun/01/2019 17:57	Wrong answer on pretest 5

#### → Problem tags



constructive algorithms   sortings   \*1700  
No tag edit access

In the first example, when one swap elements on positions 1 and 2, the array becomes sorted.

In the second example, pay attention that there is no need to minimize number of swaps.

In the third example, after swapping elements on positions 1 and 5 the array becomes: [4, 5, 3, 1, 2, 6]. After swapping elements on positions 2 and 5 the array becomes [4, 2, 3, 1, 5, 6] and finally after swapping elements on positions 1 and 4 the array becomes sorted: [1, 2, 3, 4, 5, 6].

[→ Contest materials](#)

- [Announcement #1 \(en\)](#) 
- [Announcement #2 \(ru\)](#) 

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