

HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS ROOM STANDINGS CUSTOM INVOCATION

## A. Make It Zero

time limit per test: 1 second memory limit per test: 256 megabytes input: standard input output: standard output

During Zhongkao examination, Reycloer met an interesting problem, but he cannot come up with a solution immediately. Time is running out! Please help him.

Initially, you are given an array a consisting of  $n \geq 2$  integers, and you want to change all elements in it to 0.

In one operation, you select two indices l and r ( $1 \le l \le r \le n$ ) and do the following:

- ullet Let  $s=a_l\oplus a_{l+1}\oplus\ldots\oplus a_r$  , where  $\oplus$  denotes the bitwise XOR operation;
- Then, for all  $l \leq i \leq r$ , replace  $a_i$  with s.

You can use the operation above in any order at most 8 times in total.

Find a sequence of operations, such that after performing the operations in order, all elements in a are equal to a. It can be proven that the solution always exists.

#### Input

The first line of input contains a single integer t ( $1 \le t \le 500$ ) — the number of test cases. The description of test cases follows.

The first line of each test case contains a single integer n ( $2 \le n \le 100$ ) — the length of the array a.

The second line of each test case contains n integers  $a_1, a_2, \ldots, a_n$  ( $0 \le a_i \le 100$ ) — the elements of the array  $a_i$ 

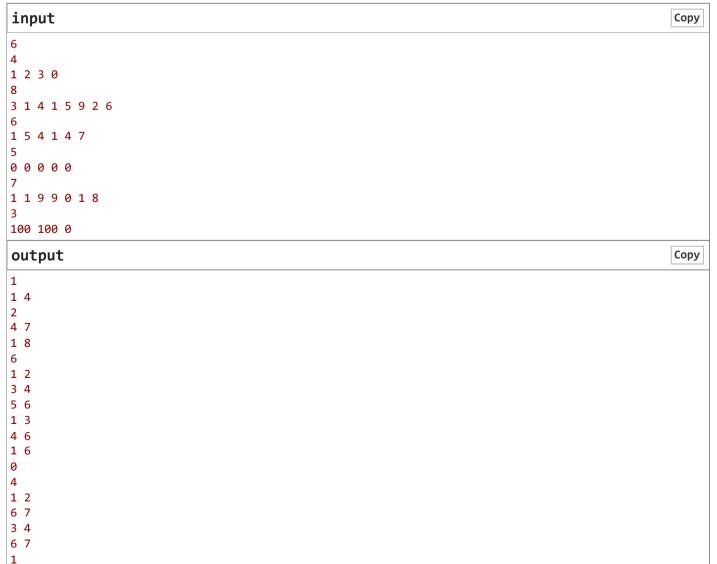
#### **Output**

For each test case, in the first line output a single integer k ( $0 \le k \le 8$ ) — the number of operations you use.

Then print k lines, in the i-th line output two integers  $l_i$  and  $r_i$  ( $1 \le l_i \le r_i \le n$ ) representing that you select  $l_i$  and  $r_i$  in the i-th operation.

Note that you  ${f do}$  not have to minimize k. If there are multiple solutions, you may output any of them.

## Example



#### Codeforces Round 896 (Div. 2)

#### **Finished**

#### Practice



#### → Virtual participation

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Start virtual contest

# → Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

# → Submit?

Language: GNU G++20 13.2 (64 bit, win ♥

Choose

Choose File No file chosen

Submit

→ Last submissions		
Submission	Time	Verdict
234087745	Nov/24/2023 18:36	Accepted
234085464	Nov/24/2023 18:32	Wrong answer on test 1
234082647	Nov/24/2023 18:27	Wrong answer on test 1
234081259	Nov/24/2023 18:24	Wrong answer on test 1
234079910	Nov/24/2023 18:22	Wrong answer on test 1
234077935	Nov/24/2023 18:19	Wrong answer on test 1

# → Problem tags

constructive algorithms \*900

No tag edit access

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# → Contest materials

- Announcement (en)
- Tutorial (en)

1 2

In the first test case, since  $1 \oplus 2 \oplus 3 \oplus 0 = 0$ , after performing the operation on segment [1,4], all the elements in the array are equal to 0.

In the second test case, after the first operation, the array becomes equal to [3, 1, 4, 15, 15, 15, 15, 15, 6], after the second operation, the array becomes equal to [0, 0, 0, 0, 0, 0, 0, 0].

In the third test case:

Operation	a before	a after
1	$[\underline{1,5},4,1,4,7] \rightarrow$	[4,4,4,1,4,7]
2	$[4,4,\underline{4,1},4,7] \rightarrow$	[4,4,5,5,4,7]
3	$[4,4,5,5,\underline{4,7}] \rightarrow$	[4,4,5,5,3,3]
4	$[\underline{4,4,5},5,3,3] \rightarrow$	[5, 5, 5, 5, 3, 3]
5	$[5,5,5,\underline{5,3,3}] \rightarrow$	[5,5,5,5,5,5]
6	$[\underline{5,5,5,5,5,5}] \rightarrow$	[0,0,0,0,0,0]

In the fourth test case, the initial array contains only 0, so we do not need to perform any operations with it.

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