

Round 1A 2016

[A. The Last Word](#)[B. Rank and File](#)**C. BFFs**[Contest Analysis](#)[Questions asked](#)

## Submissions

## The Last Word

9pt Not attempted  
10121/10327 users  
correct (98%)11pt Not attempted  
9565/10061 users  
correct (95%)

## Rank and File

14pt Not attempted  
4532/6054 users  
correct (75%)21pt Not attempted  
4041/4454 users  
correct (91%)

## BFFs

16pt Not attempted  
1793/3458 users  
correct (52%)29pt Not attempted  
1275/1463 users  
correct (87%)

## Top Scores

nika	100
sourspinach	100
Swistakk	100
semiexp.	100
ACMonster	100
mnbvmar	100
sevenkplus	100
Merkurev	100
waterfalls	100
xyz111	100

## Problem C. BFFs

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the [Quick-Start Guide](#) to get started.

Small input  
16 points

Solve C-small

Large input  
29 points

Solve C-large

## Problem

You are a teacher at the brand new Little Coders kindergarten. You have  $N$  kids in your class, and each one has a different student ID number from 1 through  $N$ . Every kid in your class has a single best friend forever (BFF), and you know who that BFF is for each kid. BFFs are not necessarily reciprocal -- that is, B being A's BFF does not imply that A is B's BFF.

Your lesson plan for tomorrow includes an activity in which the participants must sit in a circle. You want to make the activity as successful as possible by building the largest possible circle of kids such that each kid in the circle is sitting directly next to their BFF, either to the left or to the right. Any kids not in the circle will watch the activity without participating.

What is the greatest number of kids that can be in the circle?

## Input

The first line of the input gives the number of test cases,  $T$ .  $T$  test cases follow. Each test case consists of two lines. The first line of a test case contains a single integer  $N$ , the total number of kids in the class. The second line of a test case contains  $N$  integers  $F_1, F_2, \dots, F_N$ , where  $F_i$  is the student ID number of the BFF of the kid with student ID  $i$ .

## Output

For each test case, output one line containing "Case #x: y", where x is the test case number (starting from 1) and y is the maximum number of kids in the group that can be arranged in a circle such that each kid in the circle is sitting next to his or her BFF.

## Limits

 $1 \leq T \leq 100$ .

 $1 \leq F_i \leq N$ , for all  $i$ .

 $F_i \neq i$ , for all  $i$ . (No kid is their own BFF.)

## Small dataset

 $3 \leq N \leq 10$ .

## Large dataset

 $3 \leq N \leq 1000$ .

## Sample

Input	Output
4	Case #1: 4
4	Case #2: 3
2 3 4 1	Case #3: 3
4	Case #4: 6
3 3 4 1	
4	
3 3 4 3	
10	
7 8 10 10 9 2 9 6 3 3	

In sample case #4, the largest possible circle seats the following kids in the following order: 7 9 3 10 4 1. (Any reflection or rotation of this circle would also work.) Note that the kid with student ID 1 is next to the kid with student ID 7, as required, because the list represents a circle.

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