

Round B APAC Test

[A. Password Attacker](#)

[B. New Years Eve](#)

C. Card Game

[D. Parentheses Order](#)

Questions asked 1

Submissions

Password Attacker

8pt	Not attempted 736/1999 users correct (37%)
13pt	Not attempted 352/627 users correct (56%)

New Years Eve

11pt	Not attempted 142/438 users correct (32%)
12pt	Not attempted 116/138 users correct (84%)

Card Game

9pt	Not attempted 750/1147 users correct (65%)
17pt	Not attempted 70/529 users correct (13%)

Parentheses Order

10pt	Not attempted 679/996 users correct (68%)
20pt	Not attempted 59/411 users correct (14%)

Top Scores

Kriiii	100
flashmt	100
aduryak	100
pulkitg10	100
cxlove321	100
Prowindy	100
ariselpy	100
Sakib	100
atony	100
kellynq	100

Problem C. Card Game

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
9 points

Solve C-small

Large input
17 points

Solve C-large

Problem

Bob is fond of playing cards. On his birthday party, his best friend Alice gave him a set of cards.

There are N cards and each card contains an integer number. He put the cards from left to right on a desk and wants to discard some of them. Before he discards any cards, he will choose a number K . At each time, he always chooses 3 **adjacent** cards to discard, and we assume that the numbers on each card from left to right are a , b and c . Bob guarantees that

$$c - b = b - a = K$$

Bob want to know what is the smallest number of cards he can be left with at the end. If he ever has a choice of which cards to discard, he chooses the cards and will leave the fewest cards at the end.

Input

The first line of the input gives the number of test cases, T . T test cases follow.

Each test cases contains two lines. The first line of each test case contains two integers: the number of cards N and the number K Bob chooses. The second line contains N integers a_1, a_2, \dots, a_N the numbers on the cards from left to right.

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 smallest number of cards Bob can be left with after he has discarded everything he can.

Limits

$$1 \leq T \leq 100.$$

$$1 \leq a_i \leq 10^6 (1 \leq i \leq N).$$

$$1 \leq N \leq 100.$$

Small dataset

$$K = 0.$$

Large dataset

$$1 \leq K \leq 10^6.$$

Sample

Input	Output
2	Case #1: 0
6 0	Case #2: 2
4 4 3 3 3 4	
5 1	
3 1 2 3 4	

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