# HARBOUR SPACE UNIVERSITY



HOME TOP CONTESTS GYM PROBLEMSET GROUPS RATING API HELP CALENDAR

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

## A. Two Rival Students

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

You are the gym teacher in the school.

There are n students in the row. And there are two rivalling students among them. The first one is in position a, the second in position b. Positions are numbered from 1 to n from left to right.

Since they are rivals, you want to maximize the distance between them. If students are in positions p and s respectively, then distance between them is |p-s|.

You can do the following operation at most  $\boldsymbol{x}$  times: choose two **adjacent (neighbouring)** students and swap them.

Calculate the maximum distance between two rivalling students after at most x swaps.

#### Input

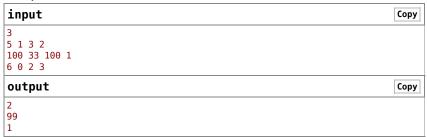
The first line contains one integer t ( $1 \le t \le 100$ ) — the number of test cases.

The only line of each test case contains four integers n,x,a and b ( $2 \le n \le 100$ ,  $0 \le x \le 100$ ,  $1 \le a,b \le n,a \ne b$ ) — the number of students in the row, the number of swaps which you can do, and positions of first and second rivaling students respectively.

#### Output

For each test case print one integer — the maximum distance between two rivaling students which you can obtain.

#### Example



#### Note

In the first test case you can swap students in positions 3 and 4. And then the distance between the rivals is equal to |4-2|=2

In the second test case you don't have to swap students.

In the third test case you can't swap students.

## Educational Codeforces Round 76 (Rated for Div. 2)

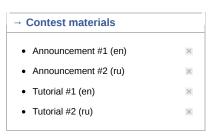
**Finished** 

### → 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 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





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