The Rivalry

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 x times: choose two adjacent (neighbouring) students and swap them.

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

Input Format

The first line contains one integer t — the number of test cases.

The only line of each test case contains four integers n, x, a and 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.

Constraints

(1≤t≤100) (2≤n≤100, 0≤x≤100, 1≤a,b≤n, a≠b)

Output Format

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

Sample Input 0

```
2
5 1 3 2
100 33 100 1
```

Sample Output 0

```
2
99
```