# G. The Special King

time limit per test: 1 second
memory limit per test: 256 megabytes

Assem bought a new chess board that has a special king that move in a different way than other regular kings.

In one move, the special king can move from its position in one of the following directions: up, down, left, or right. Formally, if the special king is standing on position $(x, y)$, in one move it can go to one of the following positions: $(x-1, y)$, $(x+1, y)$, $(x, y-1)$, or $(x, y+1)$.

Initially, the special king is standing on position $(x_1, y_1)$ and Assem wants to place it on position $(x_2, y_2)$. Can you help Assem by calculating the minimum number of required moves he needs to accomplish his goal?

## Input

The first line contains an integer $T$ $(1 \le T \le 4096)$ specifying the number of test cases,

Each test consists of a single line containing four integers $x_1$, $y_1$, $x_2$, and $y_2$ $(1 \le x_1, y_1, x_2, y_2 \le 8)$, in which $x_1$ and $y_1$ are representing the starting position of the special king, and $x_2$ and $y_2$ are representing the the ending position.

## Output

For each test case, print a single line containing the minimum number of required moves to move the special king from the starting position to the ending position.

## Example

**input** Copy

```
3
1 3 4 2
5 7 3 1
3 2 3 2
```

**output** Copy

```
4
8
0
```

## Note

In the first test case, the special king needs to be moved from position $(1, 3)$ to $(4, 2)$. One possible solution is to make $3$ moves down to position $(4, 3)$, then make $1$ move to the left to position $(4, 2)$. So, the total number of moves is $4$.

**2019 JUST Programming Contest**
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Contest website

→ 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 file: Choose File No file chosen
Submit

→ Last submissions

| Submission | Time | Verdict |
|---|---|---|
| 301386175 | Jan/17/2025 17:25 | Accepted |
| 301385882 | Jan/17/2025 17:23 | Wrong answer on test 2 |

→ Contest materials
- Announcement (en)
- Statements (en)