Help Lost Robot! Problem Code: **ICPC16A**

Robot Bunny is lost. It wants to reach its home as soon as possible. Currently it is standing at coordinates **(x_1, y_1)** in 2-D plane. Its home is at coordinates **(x_2, y_2)**. Bunny is extremely worried. Please help it by giving a command by telling the direction in which it should to go so as to reach its home. If you give it a direction, it will keep moving in that direction till it reaches its home. There are four possible directions you can give as command - **"left", "right", "up", "down"**. It might be possible that you can't instruct the robot in such a way that it reaches its home. In that case, output **"sad"**.

Input

First line of the input contains an integer **T** denoting the number of test cases. **T** test cases follow.

First line of each test case contains four space separated integers **x_1, y_1, x_2, y_2**.

Output

For each test case, output a single line
containing **"left"** or **"right"** or **"up"** or **"down"** or **"sad"** (without quotes).

Constraints

- **$1 \le T \le 5000$**
- **$0 \le x_1, y_1, x_2, y_2. \le 100$**
- It's guaranteed that the initial position of robot is not his home.

Example

Input

```
3

0 0 1 0

0 0 0 1

0 0 1 1
```

Output:

```
right

up

sad
```

Explanation

Test case 1. If you give Bunny the command to move to the right, it will reach its home.