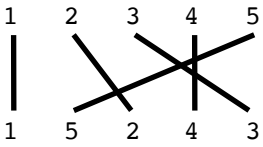
# 2019 TERMINAL VELOCITY

In an effort to attract a younger crowd to the cutthroat world of pigeon racing, the antient and honourable governing body have followed the lead of other sports and introduced a streamlined event. Sleeker. Faster. Bolder. Pigeons with jetpacks.

The $p$ birds, with unique competitor numbers from 1 to $p$, are positioned on the starting line in increasing order. They are trained to fly to the finishing line (parallel to the starting line) to fixed positions. Pigeons fly in a straight line, directly between their start and finish positions.

The jetpacks propel the pigeons at high speed and there is a risk of collisions if flight paths cross.




For example, suppose the finishing order for the pigeons is 1 5 2 4 3. Collisions might occur between 3-4, 2-5, 3-5 and 4-5.

## SAMPLE INPUT

```
5
3 4
2 5
3 5
4 5
-1 -1
```

The first line of input will consist of a single integer, $p$ ($1 \leq p \leq 100$), indicating the number of pigeons in the event. Successive lines will consist of a pair of integers, indicating a potential collision between two pigeons. Each potential collision will be given once. The input will be terminated by the line `-1 -1`.

Test input will always be a set of potential collisions corresponding with an actual race.

## SAMPLE OUTPUT

```
1 5 2 4 3
```

You should output a single line containing a permutation of the numbers 1 to $p$ indicating the order of the pigeons on the finishing line.