

## E Bridges

Oh no! The recent earthquake that hit Treeville destroyed many bridges that link the trees of the city. Your job is to find the minimum number of bridges that need to be rebuilt such that no part of Treeville is isolated from any other part.

Treeville has  $N$  ( $1 \leq N \leq 10^5$ ) trees, numbered 1 through  $N$ . A bridge connects one tree to another. Because the earthquake was so devastating, there is no more than  $M$  ( $0 \leq M \leq 10^5$ ) bridges after the earthquake.

**SHORT NAME:** bridges

### INPUT FORMAT:

The first line of input contains  $N$ , the number of trees in Treeville and  $M$ , the number of bridges after the earthquake.

The second through  $M+1$  lines of input each contain two integers,  $a$  and  $b$ , meaning there is a bridge between tree  $a$  and tree  $b$ .

### OUTPUT FORMAT:

A single integer, specifying the minimum number of bridges that need to be built so no part of Treeville is disconnected from another part.

### SAMPLE INPUT:

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

### SAMPLE OUTPUT:

```
1
```