B. Valera and Fruits

time limit per test
1 second
memory limit per test
256 megabytes
input
standard input
output
standard output

Valera loves his garden, where n fruit trees grow.

This year he will enjoy a great harvest! On the i-th tree b_i fruit grow, they will ripen on a day number a_i. Unfortunately, the fruit on the tree get withered, so they can only be collected on day a_i and day $a_i + 1$ (all fruits that are not collected in these two days, become unfit to eat). Valera is not very fast, but there are some positive points. Valera is ready to work every day. In one day, Valera can collect no more than v fruits. The fruits may be either from the same tree, or from different ones. What is the maximum amount of fruit Valera can collect for all time, if he operates optimally well?

Input

The first line contains two space-separated integers n and v ($1 \le n, v \le 3000$) — the number of fruit trees in the garden and the number of fruits that Valera can collect in a day.

Next n lines contain the description of trees in the garden. The i-th line contains two space-separated integers a_i and b_i ($1 \le a_i, b_i \le 3000$) — the day the fruits ripen on the i-th tree and the number of fruits on the i-th tree.

Output

Print a single integer — the maximum number of fruit that Valera can collect.

Examples

input

Copy

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

output

Copy

```
8
```

input

Copy

```
5 10
3 20
2 20
1 20
4 20
5 20
```

output

Copy

Note

In the first sample, in order to obtain the optimal answer, you should act as follows.

- On the first day collect 3 fruits from the 1-st tree.
- On the second day collect 1 fruit from the 2-nd tree and 2 fruits from the 1-st tree.
- On the third day collect the remaining fruits from the 2-nd tree.

In the second sample, you can only collect 60 fruits, the remaining fruit will simply wither.