Retail Empire

You have just opened your first store, which earns you A dollars in profit every day!

At the end of each day, you can use *that day's* profit to open new stores. There are N different types of stores you can open. The ith type costs C_i dollars to open and will earn P_i in profit every day after it is opened.

You can open multiple stores each day (if you have enough profit), however **you can only open at most one store of each type per day**. However, you are allowed to open multiple stores of the same type on different days.

At the end of each day, any extra profit you don't spend opening new stores will go into your long-term savings and cannot be used to open stores in the future.

Your goal is to earn at least K dollars in profit each day. The first day is day 1. If you strategically choose which stores to open, what is the earliest day on which you can earn *at least* K dollars profit? You are guaranteed that it is possible to achieve your goal.

Subtasks and Constraints

For all subtasks:

- $1 \leq N \leq 50$.
- $1 \leq A < K \leq 150\,000$.
- $1 \leq C_i, P_i \leq K$ for all i.
- At least one type of store has $C_i \leq A$.

Additional constraints for each subtask are given below.

Subtask	Points	Additional constraints
1	35	$C_i = 1$ for all i.
2	35	$K \leq 400$.
3	30	No additional constraints.

Input

- The first line of input contains the integers N, A, and K.
- The next N lines describe the types of stores. The ith such line contains the two integers C_i and P_i.

Output

Output a single integer, the earliest day on which you can earn at least K dollars profit.

Sample Input 1

```
3 2 7
1 1
1 3
1 2
```

Sample Output 1

```
2
```

Sample Input 2

```
4 1 21
1 1
1 2
1 2
1 1
```

Sample Output 2

```
6
```

Sample Input 3

```
4 8 24
1 1
4 3
5 4
9 8
```

Sample Output 3

```
3
```

Explanation

In the 1st sample case, your initial shop earns $A = 2$ dollars per day and your goal is to earn at least $K = 7$ dollars per day. After day 1, you can spend your 2 dollars profit to buy a store of type 2 and a store of type 3. This costs $C_2 + C_3 = 2$ dollars and will earn you an extra $P_2 + P_3 = 5$ dollars in profit each day. Starting from day 2, you now earn $2 + 5 = 7$ dollars.

In the 2nd sample case, your initial shop earns $A = 1$ dollar per day and your goal is to earn at least $K = 21$ dollars per day. One scenario is shown below.

Day	Profit	New shops opened
1	1	Type 2: costs $C_2 = 1$ and will earn $P_2 = 2$ dollars profit each day.
2	$1 + 2 = 3$	Types 1, 2, and 3: costs $C_1 + C_2 + C_3 = 3$ and will earn $P_1 + P_2 + P_3 = 5$ dollars profit each day.
3	$3 + 5 = 8$	Types 1, 2, 3, and 4: costs $C_1 + C_2 + C_3 + C_4 = 4$ and will earn $P_1 + P_2 + P_3 + P_4 = 6$ dollars profit each day.
4	$8 + 6 = 14$	Types 1, 2, 3, and 4: as above.
5	$14 + 6 = 20$	Types 1, 2, 3, and 4: as above.
6	$20 + 6 = 26$	

On the 6th day you are earning at least $K = 21$ dollars per day. It is not possible to achieve your goal in fewer days.

In the 3nd sample case, your initial shop earns $A = 8$ dollars per day and your goal is to earn at least $K = 24$ dollars per day. One scenario is shown below.

Day	Profit	New shops opened
1	8	Types 1 and 3: costs $C_1 + C_3 = 6$ and will earn $P_1 + P_3 = 5$ dollars profit each day.
2	$8 + 5 = 13$	Types 2 and 4: costs $C_2 + C_4 = 13$ and will earn $P_2 + P_4 = 11$ dollars profit each day.
3	$13 + 11 = 24$	

On the 3rd day you are earning at least $K = 24$ dollars per day. It is not possible to achieve your goal in fewer days.