

## Souvenir

### Problem Description

Xiaowei suddenly obtained a super power, he knows the daily price of  $N$  kinds of souvenirs in the future  $T$  days. The price of a souvenir is the amount of gold coins required to buy the souvenir and the amount of gold coins returned by selling a souvenir.

Every day, Xiaowei can make **unlimited** transactions of the following two types:

1. Choose a souvenir, if he has enough gold coins, buy the souvenir at its price on that day;
2. Sell any souvenir he has and get some gold coins back at its price on that day.

The gold coins returned each day can be **immediately** used to buy souvenirs, and souvenirs purchased can be **sold on the same day** for coins. Of course, it's okay to always keep it.

$T$  days later, Xiaowei's super power will disappear. So he must sell **all** the souvenirs on day  $T$  for gold.

Xiaowei now has  $M$  gold coins and he wants to have as many as possible coins when his super power is gone.

### Input

The first line contains three positive integers  $T$ ,  $N$ , and  $M$ , separated by spaces between every two adjacent numbers, which respectively represent the number of days  $T$ , the number of souvenirs  $N$ , and the number of gold coins Xiaowei owns now  $M$ .

For the next  $T$  lines, each line contains  $N$  positive integers separated by a space between every two adjacent numbers. The  $N$  positive integers in line  $i$  are  $P_{i,1}$ ,  $P_{i,2}$ , ...,  $P_{i,N}$ , where  $P_{i,j}$  represents the price of souvenir  $j$  on day  $i$ .

### Output

The output file is a line containing a positive integer representing the maximum coins Xiaowei has when his super power disappears.

### Sample Input 1

```
6 1 100
50
20
25
20
25
50
```

### Sample Output 1

305

**Sample Input 2**

3 3 100  
10 20 15  
15 17 13  
15 25 16

**Sample Output 2**

217

**Hint**

**[Explanation of Sample 1]**

The best strategy is:

Spend all 100 gold coins to buy 5 souvenirs 1 on the second day.

On the third day, 5 souvenirs 1 will be sold and 125 gold coins will be obtained.

On the fourth day, buy 6 souvenirs 1, and there are 5 gold coins left;

On the sixth day, sell all the souvenirs and get 300 gold coins returned. On the fourth day, he should have 5 gold coins left, so he now should have 305 gold coins.

When his super power is gone, Xiaowei will have a maximum of 305 gold coins.

**[Explanation of Sample 2]**

The best strategy is:

Spend all coins on 10 souvenirs 1 on the first day.

On the second day, sell all souvenir 1 to get 150 gold coins and buy 8 souvenir 2 and 1 souvenir 3, leaving 1 gold coin;

On the third day, he has to sell all the souvenirs and get 216 gold coins returned. On the second day, he has 1 gold coin left, making a total of 217 gold coins.

When his super power is gone, Xiaowei will have a maximum of 217 gold coins.

**[Data Scale and Restraints]**

For 10% of the data,  $T=1$ .

For 30% of the data,  $T \leq 4$ ,  $N \leq 4$ ,  $M \leq 100$ , and for all prices,  $10 \leq P_{i,j} \leq 100$ .

For another 15% of the data,  $T \leq 100$ ,  $N=1$ .

For another 15% of the data,  $T=2$ ,  $N \leq 100$ .

For 100% of the data,  $T \leq 100$ ,  $N \leq 100$ ,  $M \leq 10^3$ , and for all prices,  $1 \leq P_{i,j} \leq 10^4$ . The data guarantees that the number of gold coins that Xiaowei owns cannot exceed  $10^4$  at any time.