# Sell Pigs

English Vietnamese

Mirko works on a pig farm that consists of M locked pig-houses and Mirko can't unlock any pig-house because he doesn't have the keys. Customers come to the farm one after another. Each of them has keys to some pig-houses and wants to buy a certain number of pigs. All data concerning customers planning to visit the farm on that particular day are available to Mirko early in the morning so that he can make a sales-plan in order to maximize the number of pigs sold. More precisely, the procedure is as following: the customer arives, opens all pig-houses to which he has the key, Mirko sells a certain number of pigs from all the unlocked pig-houses to him, and, if Mirko wants, he can redistribute the remaining pigs across the unlocked pig-houses. An unlimited number of pigs can be placed in every pig-house. Write a program that will find the maximum number of pigs that he can sell on that day

## Input

The first line of input file contains two integers M and N, $1 \leq M \leq 1000$, $1 \leq N \leq 100$, number of pig-houses and number of customers. Pig houses are numbered from 1 to M and customers are numbered from 1 to N. The next line contains M integers, for each pig-house initial number of pigs. The number of pigs in each pig-house is greater or equal to 0 and less or equal to 1000. The next N lines contains records about the customers in the following form ( record about the i-th customer is written in the (i+2)-th line): A K1 K2 ... KA B It means that this customer has key to the pig-houses marked with the numbers K1, K2, ..., KA (sorted non-decreasingly ) and that he wants to buy B pigs. Numbers A and B can be equal to 0.

## Output

The first and only line of the output file should contain the number of sold pigs.

## Sample

pigs.in

```
3 3
3 1 10
2 1 2 2
2 1 3 3
1 2 6
```

pigs.out

```
7
```

pigs.in

```
6 6
6 3 2 0 1 3
2 1 2 0
1 3 3
1 1 1
```

2 2 3 8
2 4 5 2
2 4 6 6

pigs.out

15

pigs.in

11 5
1 2 2 1 0 2 4 1 1 1 2
5 1 2 3 4 5 3
4 1 2 6 7 5
2 3 8 1
3 3 6 11 5
3 8 9 10 3

pigs.out

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