

ONLINE EDITOR (E)

Aakash, a boy working at a parking lot has been given the responsibility to park the cars coming at the entrance of the parking lot.

There are three types of cars viz. large, medium and small. The parking lot has three types of slots viz. large, medium and small. The large cars cannot be parked in a medium or a small slot, and the medium cars cannot be parked in a small slot.

The charges for parking depend on the size of the slot in which it has been parked, and not on the size of the car itself. The parking charges are as follows

- Charges for a large parking slot are 100 per hour used
- Charges for a medium parking slot are 75 per hour used
- Charges for a small parking slot are 50 per hour used

Customers to the parking lot must indicate the size of their car, and their arrival and departure times to the lot one day in advance. The arrival and departure times will be whole hours. Aakash has been given a list of the customers, the size of their cars, and their arrival and departure times. Of course, he also knows the number of large, medium and small parking slots.

He has been told to maximize the revenue received from the customers. He has the freedom to refuse to allow a car to be admitted into the parking lot (of course that customer will not pay any parking charges). However, if a car is admitted into the parking lot, it must be parked in one of the cheapest (least parking charges) available slot into which it will fit. If multiple cars come at the same time, he can choose the order in which cars are parked. Also, no car which has been parked may be moved until its departure time.

Help him to arrange the cars in order to acquire maximum revenue.

 $0 \leq l, m, s \leq 50$

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- Constraints
 - $0 < l, m, s \leq 50$
 - $n \leq 50$
- Input Format

The first line contains a number n which denotes the number of cars whose information is given.

The second line contains three integers separated by single space. These are l, m and s denoting the number of large, medium and small slots in the parking lot.

Each of the next n lines consist of four space separated parts: the car no (a unique serial number), the type of car, its arrival time (2 digits in 24 hour format that means 12 midnight will be 00), and its departure time(2 digits in 24 hour format that means 12 midnight will be 00).
- Output

The line consists of the total revenue received by Aakash.
- Test Case
- Explanation

Example 1

Input

```
10
3 3 3
1 small 20 21
2 small 20 21
```

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Explanation

Example 1

Input

10

3 3 3

1 small 20 21

2 small 20 21

3 small 20 21

4 medium 20 21

5 medium 20 21

6 medium 20 21

10 small 20 21

7 large 20 21

8 large 20 21

9 large 20 21

Output

675

Explanation

n=10, and 10 customers have submitted requests for parking.

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Explanation

$n=10$, and 10 customers have submitted requests for parking.

$l=3, m=3, n=3$. There are 3 parking slots of each size.

As all the cars arrive at the same time, all the cars fit in their respective slots but one of the small cars will be refused parking, as there are no slots left in any of the other slots. Hence the revenue is

$$3 \times 100 + 3 \times 75 + 3 \times 50 = 675$$

Example 2

Input

8

3 3 3

1 medium 18 20

2 medium 19 20

3 medium 18 21

4 large 20 21

5 medium 18 19

6 medium 18 19

7 medium 18 19

8 medium 18 19

Output

1000

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7 medium 18 19
8 medium 18 19
Output
1000
Explanation
The input says $n=8, l=3, m=3, n=3$
As there are many medium cars with arrival time 18, he could choose to park cars 5, 6 and 7 into the medium slots. Then, all the medium slots are full, and he can park cars 1, 3 and 8 in the large slots.
All the medium slots are empty at time 19, and hence car 2 can be accommodated.
Two large slots are free at time 20, and hence car 4 may be accommodated.
The total revenue (in car order) is
 $2*100 + 1*75 + 3*100 + 1*100 + 1*75 + 1*75 + 1*75 + 1*100 = 1000$.

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