Topium

Time limit: 2.0s **Memory limit:** 256M

Amy crashed onto a distant planet and broke her starship's window. Luckily, she explored the planet and discovered a new gem called Topium. Because of its many special properties, she wants to use it to create a new window.

Amy needs her ship to withstand the high temperature inside stars. After doing some experiments, she noticed that the gem consists of many small crystals arranged in a flat grid lattice with N rows and M columns. While most of these crystals are made of Topium, K of them, called **impurities**, are made of other materials of varying strength. The melting point of any gem plate is equal to the sum of the strengths of all the impurities it contains. A plate containing no impurities (pure fragment) has a melting point of 0.

To create her window, Amy will need to cut out a rectangular plate with R rows and C columns. Help her determine the highest melting point of a plate she can use for her window.

Input Specification

The first line contains R and C.

The second line contains N and M.

The third line contains K.

The next K lines consist of integers x y t, indicating an impurity at row x and column y with strength t.

Output Specification

Output the maximum melting point of a rectangle with R rows and C columns that is contained in the gem.

Constraints

$1 \leq x, R \leq N \leq 10^9$
$1 \leq y, C \leq M \leq 10^9$
$1 \leq K \leq 10^5$
$-10^{12} \leq t \leq 10^{12}$

Subtask 1 [10%]

$1 \leq N, M \leq 1\,000$

Sample Input 1

```
1 1
5 5
6
1 1 10
2 2 5
3 2 8
2 3 3
4 4 -1
5 5 12
```

Sample Output 1

```
12
```

Explanation

The 1 by 1 rectangle with the highest melting point is $(5, 5)$.

Sample Input 2

```
2 2
10 10
6
1 1 10
2 2 5
3 2 8
2 3 3
4 4 -1
5 5 12
```

Sample Output 2

```
16
```

Sample Input 3

```
1 1
10 10
6
1 1 -10
2 2 -5
3 2 -8
2 3 -3
4 4 -1
5 5 -12
```

Sample Output 3

```
0
```