

Problem G

Seeds

Time limit: 5 seconds

Longyearbyen, Norway

The Horticultural Seed Preservation Committee (HSPC) is dedicated to preserving the seeds of all varieties of plants. They are planning on building a seed vault that rivals the size of the Svalbard Global Seed Vault. For security and exposure from the elements, they'd like it be in a mountain, and they've asked you to find out where it should go.

You are given the elevation of the mountain (in meters) at every point and must find the largest volume of an axis-aligned rectangular prism that fits inside the mountain.



Exterior of Svalbard Global Seed Vault.
By Cierra Martin for Crop Trust - Flickr, CC BY 2.0, acquired from
Wikimedia Commons.

Input

The first line contains two space-separated integers h, w ($1 \leq h, w \leq 500$) denoting the height and width, respectively, of the mountain's base.

Each of the next h lines contains w space-separated integers, where each is between 0 and 10^9 (inclusive) and denotes the elevation at the corresponding point.

Output

On one line, output the maximum volume of an axis-aligned rectangular prism that fits beneath the mountain.

Sample Input 1

```
3 3
1 1 1
1 50 1
1 1 1
```

Sample Output 1

```
50
```

Sample Input 2

```
3 5
3 3 3 2 2
2 2 23 2 1
2 2 2 2 2
```

Sample Output 2

```
24
```