Max pooling is a popular technique in computer vision and machine learning area. The concept of max pooling is quite simple. Given an $m \times n$ matrix, window size $s \times t$, and step-size q. The result of max pooling operation is an $u \times v$ matrix such that

$$u < \frac{m-s+1}{q}, v < \frac{n-t+1}{q}$$

The element in i^{th} row and j^{th} column is the maximum value in the submatrix from row iq to row $iq+s-1$ and column jq to column $jq+t-1$.

Input

The input includes several cases, separated by a newline character. Each case contains five integers, indicating the values of m, n, s, t, q, and an $m \times n$ matrix follows. The consecutive rows in the matrix are separated by a newline character, while each pair of consecutive columns in the matrix is separated by a space. The input ends with an asterisk.

Output

For each case, output the max pooling matrix. A newline character should be added between two consecutive matrices.

Sample Input

```
4 4 2 2 2
1 0 2 3
4 6 6 8
3 1 1 0
1 2 2 4
*
```

Sample Output

```
6 8
3 4
```