B - 行列積 / Matrix Product

Time limit : 2sec / Memory limit : 256MB

Problem Statement

You are given a N-by-M matrix A and a M-by-K matrix B.

Write a program that finds and prints the product AB.

For details on matrix multiplication, refer to the following:

https://en.wikipedia.org/wiki/Matrix_multiplication#Matrix_product_.28two_matrices.29

Input

Input is given from Standard Input in the following format:

$$
\begin{array}{llll}
N & M & K & \\
a_{11} & a_{12} & \ldots & a_{1M} \\
a_{21} & a_{22} & \ldots & a_{2M} \\
\vdots & & & \\
a_{N1} & a_{N2} & \ldots & a_{NM} \\
b_{11} & b_{12} & \ldots & b_{1K} \\
b_{21} & b_{22} & \ldots & b_{2K} \\
\vdots & & & \\
b_{M1} & b_{M2} & \ldots & b_{MK}
\end{array}
$$

- The first line contains three space-separated integers $N(1 \leqq N \leqq 50)$, $M(1 \leqq M \leqq 50)$ and $K(1 \leqq K \leqq 50)$. They represent the dimensions of the matrices A and B.
- The following N lines describe the matrix A.
- Each of these N lines contains M space-separated integers. The j-th integer on the i-th of these lines, $a_{ij}(-50 \leqq a_{ij} \leqq 50)$, represents the entry in the i-th row and j-th column of A.
- The following M lines describe the matrix B.
- Each of these M lines contains K space-separated integers. The j-th integer on the i-th of these lines, $b_{ij}(-50 \leqq b_{ij} \leqq 50)$, represents the entry in the i-th row and j-th column of B.

Output

Print N lines. Each line should contain K space-separated integers. The j-th integer on the i-th line should be the entry in the i-th row and j-th column of AB. Do not print an extra space at the end of each line.

Write to Standard Output. Be sure to print a newline at the end of the output.

Sample Input 1

Copy

```
2 3 4
1 2 3
4 5 6
7 8 9 10
11 12 13 14
15 16 17 18
```

Sample Output 1

```
74 80 86 92
173 188 203 218
```

Copy

Sample Input 2

```
3 3 3
1 0 0
0 1 0
0 0 1
1 0 0
0 1 0
0 0 1
```

Copy

Sample Output 2

```
1 0 0
0 1 0
0 0 1
```

Copy