C++ Fundamentals: Judge Assignment 1 (JA1)

The following tasks should be submitted to the SoftUni Judge system, which will be open starting Saturday, 25 November 2017, 10:00 (in the morning) and will close on Sunday, 10 December 2017, 23:59. Submit your solutions here: https://judge.softuni.bg/Contests/Compete/Index/853.

After the system closes, you will be able to "Practice" on the tasks – however the "Practice" results are NOT considered in the homework evaluation.

For this assignment, the code for each task should be a single C++ file, the contents of which you copy-paste into the Judge system.

Please be mindful of the strict input and output requirements for each task, as well as any additional requirements on running time, used memory, etc., as the tasks are evaluated automatically and not following the requirements strictly may result in your program's output being evaluated as incorrect, even if the program's logic is mostly correct.

You can use C++03 and C++11 features in your code.

Unless explicitly stated, any integer input fits into **int** and any floating-point input can be stored in **double**.

NOTE: the tasks here are NOT ordered by difficulty level.

1. Task 2 – Weighted Sum (Task-2-Array-Sum)

You are given several integer arrays with equal length, as well as an integer "weight" for each of them. Calculate a weighted sum array, equal in length to those arrays, by multiplying each element of the arrays by the array's weight, then summing the arrays together (each element is summed with the elements of the other arrays at that index).

That is, if the input arrays are **arr1**, **arr2**, …, **arrN**, and their weights are **weight1**, **weight2**, …, **weightN**, then for the **result** array:

```
result[i] = arr1[i] * weight1 + arr2[i] * weight2 + … + arrN[i] * weightN
```

Input

The first line of the input contains two integers – N and M.

Each of the following N lines contains M integer numbers – the elements of the input arrays.

The next N lines each contain a single integer number – the weight of the corresponding array (the order of the weights is the same as the order of the arrays in the input.

Output

A single line, containing M integer numbers, separated by single spaces – the weighted sum array.

Restrictions

0 < N < 100;

0 < M < 100;

Elements in the input arrays are integer numbers between **–100** and **100** (inclusive).

Weights are integer numbers between **–10** and **10** (inclusive).

The total running time of your program should be no more than **0.1s**

The total memory allowed for use by your program is **5MB**

Example I/O

Example Input	Expected Output
3 4 1 2 3 4 1 2 3 4 5 6 7 8 1 -1 2	10 12 14 16
4 2 -1 0 2 12 7 -42 13 13	131 -367

2 -1 10 5	

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