[B2] The Butler's Tea (150 pts)

Time Limit: 1s
Memory Limit: 512MB

Problem Description

A revolver, a dagger, a lead pipe and a wrench, these were the clues Detective Wayd Blanc gathered to identify the culprit to the count's murder. You call on the owners of these items and interview them one-by-one. One of the suspects, the head butler, pleads that he is innocent and was nowhere near the count at the time of his death. For some reason however, your instincts tell you he is hiding something.

Figure 1: The count's favorite tea cup

During your prior conversations, you recall the role of the head butler was to assign N servants to C chores in the household. These chores differ in the amount of work units needed to complete them W_i.

To complete the chores, a servant assigned to the task contributes 1 work unit per hour. In addition, each servant also specializes in one specific task S_i which allows them to contribute 5 work units every hour. The head butler may change the assignments only at the end of every hour. Lastly, the head butler may also assign multiple servants to the same task. In this case, the work is added up when multiple people work on it at the same time.

Note that exceeding the amount of work required for a task still counts as completing it.

From other testimonies, you also know that the head butler is very efficient and always comes up with assignments that cause the household chores to be finished in the least amount of time. Lastly, you recall that the head butler was always the last person to see the count when he brings the count his evening tea after all the chores have been finished.

To properly determine when the head butler last saw the count, identify the minimum amount of hours H needed by the servants to finish all the chores.

Input Specification

Input will begin with an integer T denoting the number of test cases. T test cases follow.

Each test case begins with two space seperated integers: N — the number of servants in the household, and C — the number of chores to be completed daily.

The next line for the test case contains N space seperated integers denoting which task the i^{th} servant specializez in S_i.

The last line per test cast contains C space separated integers denoting the amount of work W_i needed to complete the i^{th} chore.

Output Specification

For each test case, output an integer H denoting the minimum number of hours needed to complete all chores.

Constraints

$1 \leq T \leq 10$
$1 \leq N, C \leq 100$
$1 \leq S_i \leq C$
$1 \leq W_i \leq 100$

Sample Input

```
2
3 3
1 2 3
5 11 8
3 3
3 1 1
7 6 5
```

Sample Output

```
2
3
```

Explanation

For test case 1, below is a sample hourly assignments that result to a minimum total time to complete all tasks:

```
Chore Assignment
    Servant 1: 1 2
    Servant 2: 2 2
    Servant 3: 3 3
```

Likewise, below is an assignment for test case 2:

```
Chore Assignment
    Servant 1: 3 2 2
    Servant 2: 2 2 2
    Servant 3: 1 1 2
```