

Battery

Input File: battery.txt

Someone forgot to charge the laptop batteries overnight, and, even worse, most of the chargers are missing! You would like to charge the many laptops as quickly as possible in preparation for the coming day. Each remaining charger delivers energy at a different rate, and each laptop has a different percent battery. Once a laptop is plugged in, it cannot be unplugged until fully charged. Assume an instantaneous switch between laptops after a finished charge, and that a laptop can only be charged with one charger at a time.

Input:

An integer, n , the number of data sets.

For each data set:

Two space-separated integers, c and l , specifying number of chargers ($0 < c < 3$) and number of laptops ($0 < l < 500$).

c space-separated integers, each integer signifying the number of minutes it takes for the charger to charge a laptop battery one percent.

l space-separated integers, each integer (between 0 and 100 inclusive) signifying the current battery percentage of the laptop.

Output:

The shortest amount of time, in minutes, to fully charge all laptops.

Example Input:

```
1
2 6
2 3
92 94 93 95 91 89
```

Example Output:

```
56
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