German farmers are given a premium depending on the conditions at their farmyard. Imagine the following simplified regulation: you know the size of each farmer's farmyard in square meters and the number of animals living at it. We won't make a difference between different animals, although this is far from reality. Moreover you have information about the degree the farmer uses environment-friendly equipment and practices, expressed in a single integer greater than zero. The amount of money a farmer receives can be calculated from these parameters as follows. First you need the space a single animal occupies at an average. This value (in square meters) is then multiplied by the parameter that stands for the farmer's environment-friendliness, resulting in the premium a farmer is paid per animal he owns. To compute the final premium of a farmer just multiply this premium per animal with the number of animals the farmer owns.

Input

The first line of input contains a single positive integer n (< 20), the number of test cases. Each test case starts with a line containing a single integer f ($0 < f < 20$), the number of farmers in the test case. This line is followed by one line per farmer containing three positive integers each: the size of the farmyard in square meters, the number of animals he owns and the integer value that expresses the farmers environment-friendliness. Input is terminated by end of file. No integer in the input is greater than 100000 or less than 0.

Output

For each test case output one line containing a single integer that holds the summed burden for Germany's budget, which will always be a whole number. Do not output any blank lines.

Sample Input

```
3
5
1 1 1 1
2 2 2 4
3 3 3 9
2 3 4 8
8 9 2 16
3
9 1 8 72
6 12 1 6
8 1 1 8
3
10 30 40
9 8 5
100 1000 70
```

Sample Output

```
38
86
7445
```