Problem A
City Destruction

Problem ID: city
CPU Time limit: 6 secor
Memory limit: 1024 ME

Source: Alberta Collegia
Programming Contest 2
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Modan is playing a new action strategy game, where his goal is to destroy a city.

A city is made up of N buildings, where the i-th building initially has health H_i. At every move, Modan can choose a building to attack, dealing D damage to it. When a building's health falls below or equal to 0, it is destroyed. When the i-th building gets destroyed, it explodes and deals E_i damage to the adjacent buildings, i.e. the $i-1$-th and $i+1$-th buildings, if they exist.

Modan is really addicted to the game and wants to know the minimum number of moves he needs to destroy a city.

Input

The first line contains a single integer $T \leq 100$ giving the number of test cases. Each test case has three lines. On the first line, there are two integers N ($1 \leq N \leq 10\,000$), the number of buildings, and D ($1 \leq D \leq 10^9$), the amount of damage Modan can do. On the second line, there are N integers, with the i-th integer being H_i ($1 \leq H_i \leq 10^9$), the initial health of the i-th building. On the third line, there are N integers, with the i-th integer being E_i ($0 \leq E_i \leq 10^9$), the amount of explosion damage the i-th building does.

Output

For each test case, output a single line containing the minimum number of moves needed to destroy the city.

Sample Input 1

```
2
1 10
33
54
3 10
43 10 59
69 69 69
```

Sample Output 1

```
4
1
```