Processor

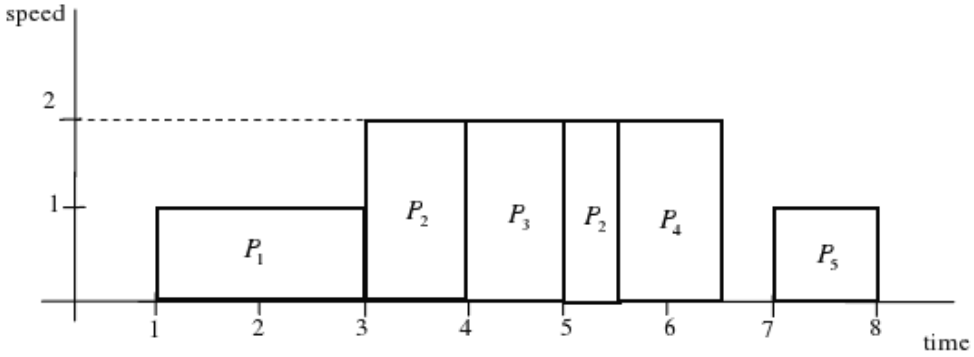
Mr. J has a notebook that has a speed-controlled processor. This processor is unique and able to run at variable speed; however, the higher the speed, the more expensive the cost of the power used is. Adjusting the speed of the processor dynamically results in energy-efficient schedules for executing a set of programs. Our goal is to minimize the maximum speed of the processor.

You are given a set of programs. Each program $\mathbf{P_i}$ has a starting time $\mathbf{s_i}$, a deadline $\mathbf{d_i}$ and a work $\mathbf{w_i}$. For each program $\mathbf{P_i}$, the work $\mathbf{w_i}$ should be done on the processor within the interval [$\mathbf{s_i}$, $\mathbf{d_i}$] to complete $\mathbf{P_i}$. Note that the processor does not need to execute a program in a contiguous interval, i.e. it can interrupt the program and resume the program later (in the given picture, P_2 is interrupted at time 4 and resumed at time 5). Recall that the processor can execute the programs at variable speed. If the processor runs the program $\mathbf{P_i}$ with work $\mathbf{w_i}$ at a constant speed **s** (we assume that **s** is a positive integer), then it takes $\frac{wi}{s}$ time to complete $\mathbf{P_i}$. The processor must complete all the programs. The goal is to find a schedule minimizing the maximum of the speeds at which the processor operates.

For example, there are five programs $\mathbf{P_i}$ with the interval [$\mathbf{s_i}$, $\mathbf{d_i}$] and work $\mathbf{w_i}$, where

[$\mathbf{s}_1$, $\mathbf{d}_1$] = [1, 4], $\mathbf{w_1}$ = 2
[$\mathbf{s}_2$, $\mathbf{d}_2$] = [3, 6], $\mathbf{w_2}$ = 3
[$\mathbf{s}_3$, $\mathbf{d}_3$] = [4, 5], $\mathbf{w_3}$ = 2
[$\mathbf{s}_4$, $\mathbf{d}_4$] = [4, 7], $\mathbf{w_4}$ = 2
[$\mathbf{s}_5$, $\mathbf{d}_5$] = [5, 8], $\mathbf{w_5}$ = 1.

The picture below represents a schedule which minimizes the maximum speed at which the processor operates. The maximum speed is 2 in this example.



Input

The input consists of **T** test cases. The first line of the input contains an integer **T** ($1 \leq \mathbf{T} \leq 20$). The first line of each test case contains an integer **N** ($1 \leq \mathbf{N} \leq 10{,}000$), the number of given programs which the processor should execute. In the next **N** lines of each test case, the i-th line contain 3 integer numbers, $\mathbf{s_i}$, $\mathbf{d_i}$ and $\mathbf{w_i}$, representing the starting time, the deadline and the work of the program $\mathbf{P_i}$, respectively, where $1 \leq \mathbf{s_i} < \mathbf{d_i} \leq 20{,}000$, $1 \leq \mathbf{w_i} \leq 1{,}000$.

Output

Print exactly one line for each test case. The output contains the maximum speed of a schedule minimizing the maximum speed at which the processor operates to complete all the given programs.

Sample Input

```
3
5
1 4 2
3 6 3
4 5 2
4 7 2
5 8 1
8
15 18 10
20 24 16
8 15 33
11 14 14
1 6 16
16 19 12
3 5 12
22 25 10
5
1 4 2
3 6 3
4 5 2
4 7 2
5 8 1
```

Sample Output

```
2
7
2
```