2532   A Lazy Worker

There is a worker who may lack the motivation to perform at his peak level of efficiency because he is lazy. He wants to minimize the amount of work he does (he is "lazy"), but he is subject to a constraint that he must be busy when there is work that he can do.

We consider a set of jobs $1, 2, \ldots, n$ having processing times $t_1, t_2, \ldots, t_n$ respectively. Job i arrives at time a_i and has its deadline at time d_i. We assume that t_i, a_i, and d_i have nonnegative integral values. The jobs have hard deadlines, meaning that each job i can only be executed during its allowed interval $I_i = [a_i, d_i]$. The jobs are executed by the worker, and the worker executes only one job at a time. Once a job is begun, it must be completed without interruptions. When a job is completed, another job must begin immediately, if one exists to be executed. Otherwise, the worker is idle and begins executing a job as soon as one arrives. You should note that for each job i, the length of I_i, $d_i - a_i$, is greater than or equal to t_i, but less than $2t_i$.

Write a program that finds the minimized total amount of time executed by the worker.

Input

The input consists of T test cases. The number of test cases (T) is given in the first line of the input file. The number of jobs ($0 \leq n \leq 100$) is given in the first line of each test case, and the following n lines have each job's processing time ($1 \leq t_i \leq 20$), arrival time ($0 \leq a_i \leq 250$), and deadline time ($1 \leq d_i \leq 250$) as three integers.

Output

Print exactly one line for each test case. The output should contain the total amount of time spent working by the worker.

Sample Input

```
3
3
15 0 25
50 0 90
45 15 70
3
15 5 20
15 25 40
15 45 60
5
3 3 6
3 6 10
3 14 19
6 7 16
4 4 11
```

Sample Output

```
50
```

```
45
15
```