

Maximum Late Fee

1 second, 256 MB

A design firm has a guarantee that every job would be finish on time. It can work on one job at a time. It has a policy that if the job is completed after the deadline for more than 10 days, it would pay for the penalty for those extra days.

More specifically, if the deadline for job i is on day D_i , and the firm gets it done on day X , it would pays the penalty as described by the following rules:

- (1) if X is within 10 days of D_i , it would pay no penalty, and,
- (2) otherwise, it would pay the extra days minus 10, i.e., it would pay $X - D_i - 10$ times the penalty rate, which is 1,000 baht per day.

You are given a list of N jobs, the time to complete each job (in days), and the deadline for each job (in days after today). You have to find a way to work on these jobs to minimize the maximum penalty the firm has to pay.

Input

The first line includes an integer N , the number of jobs ($1 \leq N \leq 100,000$).

The next N lines provide information on the jobs. On line $1+i$, for $1 \leq i \leq N$, there are two integers D_i and C_i , where D_i is the deadline for job i and C_i is the duration needed to complete job i ($0 \leq D_i \leq 10,000,000$; $1 \leq C_i \leq 1,000$).

Output

Your program should output the minimum maximum penalty the firm has to pay. It is guarantee that the answer will not exceed 2,000,000,000

Example 1

Input	Output
3 50 10 20 20 10 30	20000

Example 2

Input	Output
3 50 10 20 10 10 20	0