

HOME TOP CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP DELTIX ROUNDS 2021 🗏

T

PROBLEMS

SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

A. Bizzare adventure in a grocery store

time limit per test: 1 s. memory limit per test: 256 MB input: standard input output: standard output

(34 points) You have decided to buy some groceries at a nearby grocery store. Unfortunately, you left your wallet at home. The only thing that you can pay with is a c CHF banknote that you found in your pocket. On top of that, the salesman has run out of change. As a result, you can choose to buy no goods or goods totaling exactly c CHF.

In addition, you are on a strict diet, where you eat exactly e calories per day. Hence you planned to buy goods with a total caloric value of **exactly** e. Can you achieve that with your current budget restrictions, or will you have to go home for your wallet?

Input

The first line contains 3 integers: $n, c, e, 1 \le n \le 500, 1 \le c \le 100, 1 \le e \le 100$ — the number of products in the store, the denomination of your banknote and the target caloric value

The next n lines contain product descriptions: the line i+1 contains $a_i,b_i,1\leq a_i\leq 100$, $1\leq b_i\leq 100$ — the cost and caloric value of product i.

Output

Output "Yes", if you are able to buy a set of products such that their total cost is exactly c and their total caloric value is exactly c or "No" otherwise.

Hint: you can use the following formula to compute the answer. Let $d_{i,j,k}$ be an integer value equal to 1 if you can choose a subset of products among the first i such that their total cost is j and their total caloric value is k, and 0 otherwise. Then the following recursive formula holds for all $1 \le i \le n$, $1 \le j \le c$ and $1 \le k \le c$:

$$d_{i,j,k} = \max(d_{i-1,j,k}, d_{i-1,j-a_i,k-b_i})$$

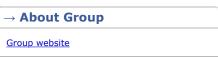
On top of that, for i=0, $d_{0,j,k}=1$ iff j=k=0.

Examples

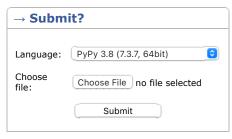
input	Сору
2 2 2 1 2 2 1	
output	Сору
No	

input	Сору
4 5 6 1 1 1 3 5 5	
4 3	
output	Сору
Yes	









→ Last submissions		
Submission	Time	Verdict
138543032	Dec/09/2021 16:36	Accepted
138542943	Dec/09/2021 16:35	Accepted
138542821	Dec/09/2021 16:34	Accepted
138541755	Dec/09/2021 16:23	Accepted
138541705	Dec/09/2021 16:22	Wrong answer on test 1
138540914	Dec/09/2021 16:13	Wrong answer on test 13
138540754	Dec/09/2021 16:11	Wrong answer on test 21
138539643	Dec/09/2021 15:59	Wrong answer on test 21