

G. Arrange Cargo

Time Limit: 10 seconds

Problem description

You have a truck with a maximum weight capacity of W and a list of cargo containers with corresponding weights, values, and unloading times. Each cargo container is numbered from 1 to N . Your task is to arrange the cargo containers into the truck so that the total value is maximized while the total weight does not exceed the truck's maximum capacity. If there are multiple options, you should choose the option with the minimum total unloading time.

Input

- The first line contains two integers N ($1 \leq N \leq 500$) and W ($1 \leq W \leq 1000$), representing the number of cargo containers and the maximum weight capacity of the truck.
- The following N lines each contain three integers w_i ($1 \leq w_i \leq 1000$), v_i ($0 \leq v_i \leq 1000$), and t_i ($1 \leq t_i \leq 100$), representing the weight, value, and unloading time of cargo container number i .

Output

- Return the maximum total value and the corresponding total unloading time of the cargo containers you have arranged in the truck without exceeding the maximum weight capacity of the vehicle. Keep in mind that if there are multiple options, you should choose the option with the minimum total unloading time.

Example 1

Input	Output
10 10 5 10 3 4 12 2 5 12 2 5 10 1 3 12 1 8 20 1 5 4 2 9 18 1 8 12 5 2 5 1	29 4

In the example above, there are 3 cargo arrangement options, all of which result in the maximum total value of 24, including:

- Select cargo containers number 2 and number 3 (option 1).

- Select cargo containers number 2 and number 5 (option 2).
- Select cargo containers number 3 and number 5 (option 3).

However, among these 3 options, option 2 and 3 have the minimum total unloading time. The total unloading time for these two options is 3.

Example 2

Input	Output
3 10 12 5 2 20 1 7 4 5 2	0 0

In this example, the truck cannot accommodate any of the cargo containers.