Charm Bracelet

https://vjudge.net/problem/POJ-3624

Bessie has gone to the mall's jewelry store and spies a charm bracelet. Of course, she'd like to fill it with the best charms possible from the N ($1 \le N \le 3{,}402$) available charms. Each charm i in the supplied list has a weight W_i ($1 \le W_i \le 400$), a 'desirability' factor D_i ($1 \le D_i \le 100$), and can be used at most once. Bessie can only support a charm bracelet whose weight is no more than M ($1 \le M \le 12{,}880$).

Given that weight limit as a constraint and a list of the charms with their weights and desirability rating, deduce the maximum possible sum of ratings.

Input

* Line 1: Two space-separated integers: N and M
* Lines 2..N+1: Line i+1 describes charm i with two space-separated integers: W_i and D_i

Output

* Line 1: A single integer that is the greatest sum of charm desirabilities that can be achieved given the weight constraints

Sample

Input	Output
4 6 1 4 2 6 3 12 2 7	23