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B. Burglar and Matches

time limit per test: 0.5 second
memory limit per test: 64 megabytes

A burglar got into a matches warehouse and wants to steal as many matches as possible. In the warehouse there are m containers, in the i -th container there are a_i matchboxes, and each matchbox contains b_i matches. All the matchboxes are of the same size. The burglar's rucksack can hold n matchboxes exactly. Your task is to find out the maximum amount of matches that a burglar can carry away. He has no time to rearrange matches in the matchboxes, that's why he just chooses not more than n matchboxes so that the total amount of matches in them is maximal.

Input

The first line of the input contains integer n ($1 \leq n \leq 2 \cdot 10^8$) and integer m ($1 \leq m \leq 20$). The $i + 1$ -th line contains a pair of numbers a_i and b_i ($1 \leq a_i \leq 10^8$, $1 \leq b_i \leq 10$). All the input numbers are integer.

Output

Output the only number — answer to the problem.

Examples

input	Copy
7 3 5 10 2 5 3 6	
output	Copy
62	

input	Copy
3 3 1 3 2 2 3 1	
output	Copy
7	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 16 (Div. 2 Only)

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++23 14.2 (64 bit, ms) ▼

Choose file: No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
327087104	Jul/02/2025 15:43	Accepted

→ Problem tags

greedy implementation sortings *900
No tag edit access

→ Contest materials

- Announcement ✕
- Tutorial ✕

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The only programming contests Web 2.0 platform
Server time: Jul/02/2025 19:43:44^{UTC+7} (k1).
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