B. Burglar and Matches

time limit per test: 0.5 second
memory limit per test: 64 megabytes
input: standard input
output: standard output

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

Output

Output the only number — answer to the problem.

Examples

input
7 3 5 10 2 5 3 6

output
62

input
3 3 1 3 2 2 3 1

output
7