2ND COMPETITIVE PROGRAMMING
INTRODUCTORY COURSE PRACTICE CONTEST
SINGAPORE 2025

NTUC
Day 4 Tasks
English (ISC)

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NTUC

Input file: standard input
Output file: standard output
Time limit: 1 second
Memory limit: 1024 Megabytes

The National Trades Union Congress (NTUC), also known internationally as the Singapore National Trades Union Congress (SNTUC), is the sole national trade union centre in Singapore. It leads the country's labour movement, comprising 59 affiliated trade unions, 5 affiliated trade associations, 6 social enterprises, 6 related organisations, and various enterprise partners.

Reverberate, an aspiring competitive programmer, wants to buy a number of *tyx*s to prepare for the CPIC 2025 final contest. To do so, he visits the NTUC store to purchase these parallelograms. (tyx is a parallelogram)

The NTUC store has N sellers offering *tyx*s for sale. The i-th seller has a stock of S[i] *tyx*s and sells each one for P[i] dollars, where P[i] is a non-negative integer. If a seller has an infinite supply of *tyx*s, S[i] will be -1.

Reverberate wants to acquire exactly K *tyx*s and would like to know the minimum amount of money he must pay to do so. It can be guaranteed that enough tyx will be sold.

You may buy 0 or more *tyx*s from each seller, but never more than the seller's available stock (if it is finite). You are not required to purchase the entire supply from any seller.

Input format

```
N K
S[0] S[1] ... S[N-1]
P[0] P[1] ... P[N-1]
```

Output format

```
C
```

Here, C is the minimum amount of money Reverberate must pay to acquire exactly K tyxs

Constraints

- $1 \leq N \leq 10^5$
- $1 \leq K \leq \sum_{i=0}^{N-1} S[i]$
- -1 or $1 \leq S[i] \leq 10^9$
- $1 \leq P[i] \leq 10^4$

Subtasks

Subtask	Score	Additional Constraints
1	0	Sample Testcases
2	20	N = 1
3	30	S[i] = -1
4	30	$1 \leq S[i] \leq 10^2$
5	20	-

Example

Consider the following input:

```
3 3
1 5 4
2 4 10
```

The correct output is:

```
10
```

Reverberate can buy 1 tyx from the 0-th seller for 2 dollars and 2 tyxs from the 1-th seller for 8 dollars, hence he would pay 10 dollars in total.