Theory of Relativity

Time Limit: 2.0s   **Memory Limit:** 128M
Java 8: 4.0s

Albert Einstein was a renowned theoretical physicist who developed the famous equation $E = mc^2$. Albert Einstein is now working on a thesis he calls the Theory of Special Relativity which posits a set of universal truths about the behavior of light and motion of objects. When developing his thesis, Einstein selects evidence to support his hypothesis based on a "reliability ratio". He selects a set of trials from various different experiments such that the sum of the reliability ratio is maximized. He must, however, represent a variety of experiments and not select too many trials from a single one. Can you help maximize Einstein's reliability ratio sum?

Input Specification

The first line of input is n $(1 \leq n \leq 10^6)$ representing the number of trials Einstein performed in total.
The second line of input is m $(1 \leq m \leq n)$ representing the number of trials he can select from any given experiment.
The third line of input is q $(1 \leq q \leq n)$ representing the number of trials Einstein can select to represent his data.
The next n lines contain two space separated integers n_1, n_2 $(1 \leq n_i \leq 10^6)$ representing each trial's reliability ratio and which experiment it came from.

Output Specification

Print the maximum total reliability ratio that can be achieved with q trials while not selecting more than m trials from a single experiment.
Note: Faster input reading is encouraged for submissions in Java.

Sample Input

```
6
2
3
4 1
3 7
7 7
9 7
5 5
10 7
```

Sample Output

24

Explanation for Sample

Einstein selects the most reliable trials with scores of `10` and `9`. Because he can no longer select trials from experiment 7, he selects the trial from experiment 5 with a score of 5. The sum of these trials is 24.