



Luck Balance

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Problem

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Lena is preparing for an important coding competition that is preceded by N sequential preliminary contests. She believes in "saving luck", and wants to check her theory. Each contest is described by two integers, L_i and T_i :

- L_i is the amount of luck that can be gained by winning the contest. If Lena *wins* the contest, her luck balance will *decrease* by L_i ; if she *loses* it, her luck balance will *increase* by L_i .
- T_i denotes the contest's *importance rating*. It's equal to **1** if the contest is *important*, and it's equal to **0** if it's *unimportant*.

If Lena loses no more than K *important* contests, what is the maximum amount of luck she can have after competing in all the preliminary contests? This value *may* be negative.

Input Format

The first line contains two space-separated integers, N (the number of preliminary contests) and K (the maximum number of important contests Lena can lose), respectively.

Each line i of the N subsequent lines contains two space-separated integers, L_i (the contest's luck balance) and T_i (the contest's importance rating), respectively.

Constraints

- $1 \leq N \leq 100$
- $0 \leq K \leq N$
- $1 \leq L_i \leq 10^4$
- $0 \leq T_i \leq 1$

Output Format

Print a single integer denoting the maximum amount of luck Lena can have after all the contests.

Sample Input

```
6 3
5 1
2 1
1 1
8 1
10 0
5 0
```

Sample Output

```
29
```

Explanation

There are $N = 6$ contests. Of these contests, 4 are important (so she cannot lose any more than $K = 3$ of them). Lena maximizes her luck if she wins the 3^{rd} important contest (where $L_i = 1$) and loses all of the other five contests for a total luck balance of $5 + 2 + 8 + 10 + 5 - 1 = 29$.

[f](#) [t](#) [in](#)Submissions: [13889](#)

Max Score: 20

Difficulty: Easy

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Current Buffer (saved locally, editable)  

Java 7   

```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

 [Upload Code as File](#)☐ Test against custom input

Run Code

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