# **Luck Balance**



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  $L_i$ .
- ullet  $T_i$  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.

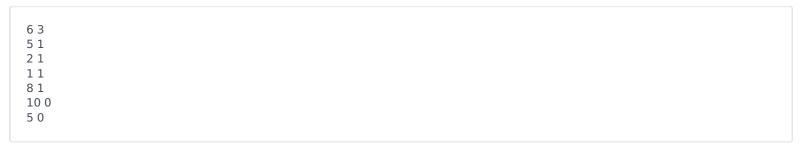
#### **Constraints**

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

# **Output Format**

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

#### Sample Input



### **Sample Output**

29

# **Explanation**

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