

# Luck Balance

Lena is preparing for 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 contain 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<sup>rd</sup>** important contest (where  $L_i = 1$ ) and loses all of the other five contests for a total luck balance of **29**.

