Lena is preparing for an important coding competition that is preceded by a number of sequential preliminary contests. Initially, her luck balance is 0. 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 associated with a 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.

Example

$k = 2$
$L = [5, 1, 4]$
$T = [1, 2, 0]$

Contest	L[i]	T[i]
1	5	1
2	1	1
3	4	0

If Lena loses all of the contests, her will be $5 + 1 + 4 = 10$. Since she is allowed to lose 2 important contests, and there are only 2 important contests, she can lose all three contests to maximize her luck at 10.

If $k = 1$, she has to win at least 1 of the 2 important contests. She would choose to win the lowest value important contest worth 1. Her final luck will be $5 + 4 - 1 = 8$.

Function Description

Complete the luckBalance function in the editor below.

luckBalance has the following parameter(s):

- int k: the number of important contests Lena can lose
- int contests[n][2]: a 2D array of integers where each $contests[i]$ contains two integers that represent the luck balance and importance of the ith contest

Returns

- int: the maximum luck balance achievable

Input Format

The first line contains two space-separated integers n and k, the number of preliminary contests and the maximum number of important contests Lena can lose.

Each of the next n lines contains two space-separated integers, $L[i]$ and $T[i]$, the contest's luck balance and its importance rating.

Constraints

- $1 \le n \le 100$
- $0 \le k \le N$
- $1 \le L[i] \le 10^4$
- $T[i] \in \{0, 1\}$

Sample Input

```
STDIN   Function
-----   --------
6 3     n=6, k=3
5 1     contests = [[5, 1], [2, 1], [1, 1], [8, 1], [10, 0], [5, 0]]
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 and she cannot lose more than $k = 3$ of them. Lena maximizes her luck if she wins the 3rd important contest (where $L[i] = 1$) and loses all of the other five contests for a total luck balance of $5 + 2 + 8 + 10 + 5 - 1 = 29$.