Luck Balance ★

Problem   Submissions   Leaderboard   Editorial 🔒

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

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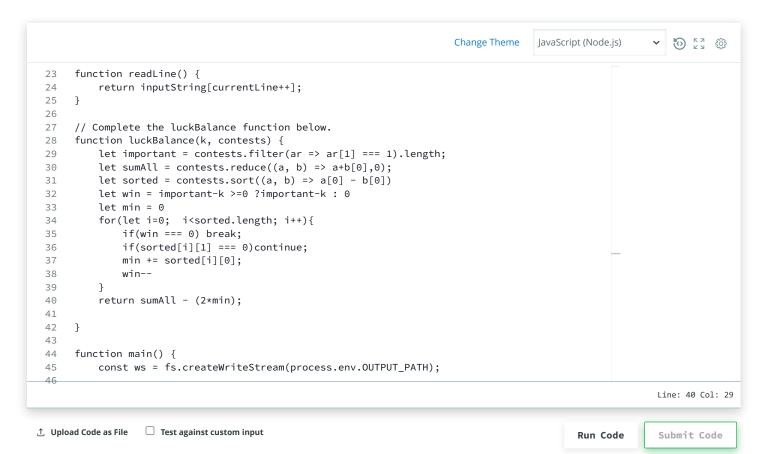- $1 \le L[i] \le 10^4$
- $T[i] \in \{0, 1\}$

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 $5 + 2 + 8 + 10 + 5 - 1 = 29$.

Change Theme   JavaScript (Node.js)   ⌄

```
23    function readLine() {
24        return inputString[currentLine++];
25    }
26
27    // Complete the luckBalance function below.
28    function luckBalance(k, contests) {
29        let important = contests.filter(ar => ar[1] === 1).length;
30        let sumAll = contests.reduce((a, b) => a+b[0],0);
31        let sorted = contests.sort((a, b) => a[0] - b[0])
32        let win = important-k >=0 ?important-k : 0
33        let min = 0
34        for(let i=0;  i<sorted.length; i++){
35            if(win === 0) break;
36            if(sorted[i][1] === 0)continue;
37            min += sorted[i][0];
38            win--
39        }
40        return sumAll - (2*min);
41
42    }
43
44    function main() {
45        const ws = fs.createWriteStream(process.env.OUTPUT_PATH);
46
```

Line: 40 Col: 29

⬆ Upload Code as File   ☐ Test against custom input   **Run Code**   **Submit Code**

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

⊘ **Sample Test case 0**

                  Input (stdin)   Download

⊘ **Sample Test case 1**

```
1    6 3
2    5 1
```

⊘ **Sample Test case 2**

```
3    2 1
4    1 1
5    8 1
6    10 0
7    5 0
```

Your Output (stdout)

1 | **29**

Expected Output   Download