Mirko has a chessboard with **N** rows and just three columns. Slavica has written an integer on each field. Mirko has **K** dominoes at his disposal, their dimensions being **2x1**, and has to arrange **all of them** on the board without overlapping, in a way that each domino covers exactly two fields of the board. He can rotate the dominoes as he pleases.

Help Mirko cover **the largest sum of numbers possible** with the dominoes!

INPUT

The first line of input contains the integer **N** ($1 \leq \mathbf{N} \leq 1000$), the number of rows, and **K** ($1 \leq \mathbf{K} \leq 1000$), the number of dominoes available.

Each of the following **N** lines contains three integers written in the **i**th row of the board. All numbers will be lesser than 10^6 by absolute value.

OUTPUT

The first and only line of output must contain the maximal sum possible to cover with exactly **K** dominoes.

SAMPLE TESTS

input	input
5 3 2 1 -1 1 3 2 0 2 3 2 1 1 3 3 0	2 2 0 4 1 3 5 1
output	**output**
16	13

Clarification of the first example: It is optimal to place all dominoes horizontally and along the right edge of the second row, right edge of the third row and along the left edge of the final row.