Problem A. Runway

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3.5 seconds
Memory limit:	256 megabytes

Tourism in your region is booming, the number of visitors has doubled in the past four years reaching 200 million in 2018. To follow the expected growth of the number of tourists, your city is planning to construct a new airport and they designated you as project manager.

One of the most important facilities in an airport is the runway, it is a rectangular area prepared for the landing and takeoff of aircraft. The runway should also be as flat as possible, to ensure a safer landing or takeoff.

When consulting the construction plan, you noticed irregularities in the heights of the terrain: The runway terrain can be seen as a joint of N cuboids of identical bases and different heights. The width of each cuboid is 1 m and we note h_i the height of cuboid number i.

You want exactly k meters of contiguous flat terrain to construct the runway. Workers can add or remove soil from each cuboid. Because materials are different, removing or adding soil to cuboid i costs c_i MAD per unit of height. What is the minimum cost of constructing the runway?

Input

The first line of the input file contains the number of test cases.

Each test case starts with two integers : N the number of cuboids and k the length of the runway ($1 \leq k \leq N \leq 10^3$).

Then follows N lines, each one is containing 2 integers h_i and c_i denoting respectively the height of cuboid i and the cost of modifying one unit of height of this cuboid ($1 \leq h_i \leq 10^6$ and $1 \leq c_i \leq 100$).

Output

For each test case output one line containing one integer : the minimum cost of building the runway.

Example

standard input	standard output
2 6 4 1 1 1 1 2 1 1 1 1 1 1 1 5 4 1 1 2 1 3 1 4 1 5 1	1 4