

B. Kefa and Company

time limit per test: 2 seconds
memory limit per test: 256 megabytes

Kefa wants to celebrate his first big salary by going to restaurant. However, he needs company.

Kefa has n friends, each friend will agree to go to the restaurant if Kefa asks. Each friend is characterized by the amount of money he has and the friendship factor in respect to Kefa. The parrot doesn't want any friend to feel poor compared to somebody else in the company (Kefa doesn't count). A friend feels poor if in the company there is someone who has at least d units of money more than he does. Also, Kefa wants the total friendship factor of the members of the company to be maximum. Help him invite an optimal company!

Input

The first line of the input contains two space-separated integers, n and d ($1 \leq n \leq 10^5$, $1 \leq d \leq 10^9$) — the number of Kefa's friends and the minimum difference between the amount of money in order to feel poor, respectively.

Next n lines contain the descriptions of Kefa's friends, the $(i + 1)$ -th line contains the description of the i -th friend of type m_i, s_i ($0 \leq m_i, s_i \leq 10^9$) — the amount of money and the friendship factor, respectively.

Output

Print the maximum total friendship factir that can be reached.

Examples

input	Copy
4 5 75 5 0 100 150 20 75 1	
output	Copy
100	

input	Copy
5 100 0 7 11 32 99 10 46 8 87 54	
output	Copy
111	

Note

In the first sample test the most profitable strategy is to form a company from only the second friend. At all other variants the total degree of friendship will be worse.

In the second sample test we can take all the friends.

Codeforces Round 321 (Div. 2)

Finished

Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
280387223	Sep/09/2024 05:18	Accepted

→ Problem tags

binary search sortings two pointers

*1500

No tag edit access

→ Contest materials

Announcement

Tutorial