

3. [10 Marks] You are Quicksilver! You can travel K meters in 1 second. To qualify as an X-Men, you are required to also have a good judgement, so you are tested.

In this test, you will have to run along a 1-dimensional line trying to catch dropping balls. The line is marked every meter as positions $0, 1, \dots, 1,000,000,000$. Every second, a ball labelled with a score will appear near the ground at a position on the line. If the ball is no farther than K meters from you, you can move to catch it. But you may decide not to, and the ball will drop on the ground and immediately disappears. The rule is, however, you cannot move from your position unless you really can catch a dropping ball. So in any second, if you move without catching a ball within that second, you will be disqualified.

The goal is to collect as high total score as possible.

To help you plan for the test, X-Men academy gives you the sequence of position and the score of the dropping balls. You then try to write a program to calculate your possible highest score!

INPUT:

First line: three integers separated by space; N (the number of balls, $N \leq 1000$), K (the maximum distance you can travel in one second), and S (the starting position on the line). $0 \leq K, S \leq 1,000,000,000$

The next N lines denotes events in the consecutive seconds. The first line is for the first second and so on. Each line contains two integers; the position and the score of the ball at the respective second.

OUTPUT:

One number; the highest possible total score.

EXAMPLE

INPUT	OUTPUT
3 4 2 5 4 1 3 8 5	9
5 10 100 90 10 81 10 99 5 105 10 85 10	30

NOTE: Only two test cases (out of 10) will have $n \leq 30$