Fire stations
1 second, 128 MB

There are **N** garages on a straight-line road. A position on this road is specified as the distance from one specific end of the road to that position. Garages are numbered from **1** to **N**. Garage **i** is at position $\mathbf{X_i}$. More over garages are numbered based on their locations, i.e., $\mathbf{X_i} < \mathbf{X_{i+1}}$.

It is easy to have accidents at these garages, so the city plans to have fire station on this road. A fire station has effective working radius of **R**, i.e., a fire station at position **Y** can take care of fires from position **Y-R** to **Y+R** on the road.

How many fire stations do the city need so that they can effectively deal with all possible fires at these **N** garages.

Input
First line of the input contains two integers: **N** and **R**. (1<=**N**<=100,000; 1<=**R**<=1,000,000,000)

The next **N** lines specify garage positions. More specifically, on line 1+**i**, for 1<=**i**<=**N**, there is an integer $\mathbf{X_i}$, the position of garage **i**. Note that $\mathbf{X_i} < \mathbf{X_{i+1}}$, for every 1<=**i**<**N**. (0<=$\mathbf{X_i}$<=1,000,000,000)

Output
Your program should output one integer, the minimum number of fire station needed.

Example

Input	Output
5 10 10 20 25 70 90	2