



## EASY PROBLEM

Michael just learned about Absolute value and its properties. He also thinks mathematics is his instinct so after school, he usually tries to come up with new problem to practice and sharpen his skill. Today, after solving all homework, to kill his boredom, he finds a very strange problem:

Given an array of  $N$  integers,  $X_1, X_2, \dots, X_N$ . Find the maximum value of:

$$|X_i - X_j| + |i - j|, \text{ for } 1 \leq i, j \leq N$$

### Input

- The first line is the number  $N$ ,  $2 \leq N \leq 1.000.000$
- The next line contains  $N$  elements of array,  $|X_i| \leq 10^8$ , for  $1 \leq i \leq N$

### Output

Maximum value of the function defined above.

### Examples

Standard Input	Standard Output
4 2 -1 5 9	12

#### Explain:

Choose  $X_2 = -1$  and  $X_4 = 9$ .

$$|-1-9| + |2-4| = 12$$