

PROBLEM 1

# Javelin

**Input file:** javelin.txt

**Output file:** javelout.txt

**Time and memory limits:** 1 second, 1 GB

$N$  students participated in the javelin throwing event at your school's latest athletics meet. The students took turns throwing the javelin as far as possible, and the  $i$ th student threw it  $D_i$  metres. The winner was the student who threw it the furthest. Fortunately, every student threw the javelin a different distance and so there were no ties.

You want to see how exciting the competition was by counting how many different students were leading the competition at some point. Specifically, a student is considered a *current leader* if they threw the javelin further than everyone who came before them. How many different current leaders were there during the competition?

## Subtasks and constraints

Your program will be graded using many secret tests. Every test follows some rules:

- $2 \leq N \leq 200\,000$ .
- $1 \leq D_i \leq 1\,000\,000$  for all  $i$ .
- All  $D_i$  are different. That is,  $D_i \neq D_j$  for all  $i \neq j$ .

The secret tests are divided into subtasks. Your program must correctly solve **every test** within a subtask to earn the marks for that subtask:

- For Subtask 1 (40 marks),  $N = 2$ .
- For Subtask 2 (40 marks),  $N \leq 1000$ .
- For Subtask 3 (20 marks), no special rules apply.

## Input

Your program must read input from the file `javelin.txt`. When testing on your own computer, this file must be placed in the same folder as your program. We strongly recommend using the solution templates (which you can find on the *Templates & Downloads* page of the competition website) to help you with input and output.

The file `javelin.txt` follows a specific format:

- The 1st line contains the integer  $N$ .
- The 2nd line contains  $N$  integers, describing how far each student threw the javelin. The  $i$ th of these is  $D_i$ .

## Output

Your program must write a single integer to the file `javelout.txt`: the number of current leaders during the competition.

**Sample input 1**

3  
1 2 3

**Sample input 2**

6  
5 2 3 8 1 7

**Sample input 3**

2  
2 1

**Sample output 1**

3

**Sample output 2**

2

**Sample output 3**

1

**Explanation**

- In the 1st sample case, all three students were current leaders because they threw further than everyone before them.
- In the 2nd sample case, the 1st student (who threw it 5 metres) and the 4th student (who threw it 8 metres) were the only two current leaders.
- In the 3rd sample case, the 1st student was the only current leader.