

Telerik Academy

Telerik Academy Season 2016-2017 / C# Fundamentals Exam - 26 April 2016

Task 2: Speeds

Description

You are given a sequence of the speeds of cars in a single-lane-street. A car can catch up to the car B, only if B is in-front of A and the speed of A is greater than the speed of B, and then the speed of A is lowered to the speed of B. Each gathering of cars is called a group. Your task is to find the sum of the **initial speeds** of the **longest group** of cars (the group with most cars in it). If more than one group with equal length exists, then find the biggest sum of the initial speeds of these groups.

Additional notes

- Cars cannot outrun each other
 - They can only catch up
- The street is very very long and no matter the speed
 - No car with any speed can get out of it till the end of the exam
- Cars with equal speeds do not catch up to each other
 - They do not form a group

Example:

- There are two groups with biggest length
 - $4 + 6 + 5 = 15$
 - $3 + 9 + 100 = 112$
- The answer is 112



Input

All input data is read from the standard input (the console)

- On the first line will be the number `c`
 - The number of cars
- On the next `c` lines there will be a single integer number `s`
 - The speed of each car

Output

The output data is printed on the standard output (the console)

- On the single line on the output print the **sum of the the initial speeds of longest group** (the group with most cars)
 - If there are groups with equal length, print the biggest sum

Constraints

- `c` will always be between `1` and `1000`
- Each `s` will always be between `1` and `1500`
- **The input data will always be correct and there is no need to check it explicitly**
- Allowed memory: **8 MiB**
- Allowed working time for your program: **0.1 seconds**

Sample Tests

Sample Input 1

```
11
4000
4
6
5
3
3
9
100
2
3
1
```

Sample Output 1

```
112
```

Sample Input 2

```
4
1
1
1
1
```

Sample Output 2

```
1
```

Sample Input 3

```
5
5
4
3
2
1
```

Sample Output 3

```
5
```

Sample Input 4

```
5
1
2
```

3
4
5

Sample Output 4

15