Zonal Computing Olympiad 2014, 30 Nov 2013

2:00 pm-5:00 pm IST

Problem 1: Smart Phone

You are developing a smartphone app. You have a list of potential customers for your app. Each customer has a budget and will buy the app at your declared price if and only if the price is less than or equal to the customer's budget.

You want to fix a price so that the revenue you earn from the app is maximized. Find this maximum possible revenue.

For instance, suppose you have 4 potential customers and their budgets are 30, 20, 53 and 14. In this case, the maximum revenue you can get is 60.

Input format

Line 1 : *N*, the total number of potential customers.

Lines 2 to *N*+1: Each line has the budget of a potential customer.

Output format

The output consists of a single integer, the maximum possible revenue you can earn from selling your app.

Sample Input 1

```
4
30
20
53
14
```

Sample Output 1

```
60
```

Sample Input 2

```
5
40
3
65
```

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```
33
21
```

Sample Output 2

```
99
```

Test data

Each customers' budget is between 1 and 10^8, inclusive.

Subtask 1 (30 marks) : $1 \leq N \leq 5000$.

Subtask 2 (70 marks) : $1 \leq N \leq 5 \times 10^5$.

Live evaluation data

There are 15 test inputs on the server during the exam. The grouping into subtasks is as follows.

- **Subtask 1:** Test inputs 0,…,5
- **Subtask 2:** Test inputs 6,…,14

Limits

Time limit : 1s

Memory limit: 32 MB

Note

The answer might not fit in a variable of type `int`. We recommend that you use variables of type `long long` to read the input and compute the answer. If you use `printf` and `scanf`, you can use `%lld` for `long long`.