The *absolute difference* between two integers

Data source : *difference*_between_ two_integers.txt

The *absolute difference* between two integers, *a* and *b*, is written as |*a*−*b*|. The *maximum absolute difference* between two integers in a set of positive integers, *elements*, is the largest absolute difference between any two integers in *elements*.

The *Difference* class is started for you in the editor. It has a private integer array (*elements*) for storing *N* non-negative integers, and a public integer (*maxDifference*) for storing the maximum absolute difference.

Task

Complete the *Difference* class by writing the following:

- A class constructor that takes an array of integers as a parameter and saves it to the *elements* instance variable.
- A *computeDifference* method that finds the maximum absolute difference between any 2 numbers in *N* and stores it in the *maxDifference* instance variable.

Input Format

You are not responsible for reading any input from stdin. The locked *Solution* class in your editor reads in 2 lines of input; the first line contains *N*, and the second line describes the *elements* array.

Constraints

- $1 \leq N \leq 10$
- $1 \leq elements[i] \leq 100$, where $0 \leq i \leq N-1$

Output Format

You are not responsible for printing any output; the *Solution* class will print the value of the *maxDifference* instance variable.

Sample Input

```
3
1 2 5
```

Sample Output

```
4
```

Explanation

The scope of the *elements* array and *maxDifference* integer is the entire class instance. The class constructor saves the argument passed to the constructor as the *elements* instance variable (where the *computeDifference* method can access it).

To find the maximum difference, *computeDifference* checks each element in the array and finds the maximum difference between any 2 elements: |1−2|=1

|1−5|=4

|2−5|=3

The maximum of these differences is 4, so it saves the value 4 as the *maxDifference* instance variable. The locked stub code in the editor then prints the value stored as *maxDifference*, which is 4.

```php
<?php
    class Difference{
    private $elements=array();
    public $maximumDifference;
   // Write your code here

} //End of Difference class


$N=intval(fgets(STDIN));
$a =array_map('intval', explode(' ', fgets(STDIN)));
$d=new Difference($a);
$d->ComputeDifference();
print ($d->maximumDifference);
?>
```