**Uncle Grandpa and nearest numbers**

Uncle Grandpa has an array of integers of length . For each element in the array, he wants to find the nearest element (either to the left or to the right) that is equal to it. Please help him!

## Input

The first line contains a single integer – the length of the array

The second line contains integers – the element of the array a

## Output

lines, the line is the distance from the element to its nearest equal element. If there is no equal element, print

## Examples

|  |  |
| --- | --- |
| Input (nearest1.in) | Output (nearest1.out) |
| 6  1 4 1 5 5 1 | 2  -1  2  1  1  3 |

## Explanation:

For the 1st element, the nearest equal element is at position 3

For the 2nd element, there is no equal element to it in the array

For the 3rd element, the nearest equal element is at position 1

For the 4th element, the nearest equal element is at position 5

For the 5th element, the nearest equal element is at position 4

For the 6th element, the nearest equal element is at position 3

## Note:

1. A skeleton file has been given to help you. You should not create a new file or rename the file provided. You should develop your program using this skeleton file.
2. You are free to define your own helper methods and classes (or remove existing ones) if it is suitable but you must put all the new classes, if any, in the same skeleton file provided

## Skeleton File

You are given the skeleton file Nearest.java. You should see the following contents when you open the file:

|  |
| --- |
| /\*\*  \* Name :  \* Matric. No :  \*/  import java.util.\*;  public class Nearest {  private void run() {  }  public static void main(String args[]) {  Nearest runner = new Nearest();  runner.run();  }  } |