Lab2-1 Minimum Difference

Description

Given a sequence a with n items, the weights of each item are a_i. We define the minimum weight difference of a_i as $h_i = min_{j>i}|a_j - a_i|$. Please compute the minimum weight difference of each item.

Input

The first line has a integer n .

The second line has n space-separated integers: $a_1, a_2, \cdots, a_n$.

Output

Print n-1 lines. The i_{th} line is the h_i. ($1 \leq i \leq n-1$)

h_1

h_2

$\cdots$

h_{n-1}

Sample Test Data

```
Input:
5
1 2 3 4 5

Output:
1
1
1
1

```

Data Range

For 100% cases, having $2 \leq n \leq 2 \times 10^6$ and all the elements of the array a $1 \leq a_i \leq 10^9$.

Note

You can use qsort() in stdlib.h

提交的代码有以下7条限制：

1. 不能用namespace
2. 不能用cstring
3. 不能用cstdlib
4. 不能用bits/stdc++.h
5. 不能用cstdio
6. 必须出现：NULL
7. 必须出现类似于:a->b=c->d的语句

如出现以上七条之一会得到Access Denied

如果以上七条都满足但无法提交请联系 sheny@mail.sustech.edu.cn

暴力可以通过8个测试点，需要通过全部10个测试点可联系沈昀获取题解或登录dsaa oj:acm.sustech.edu.cn 获取20级或21级linkedlist lab当年你自己写的代码

Lab2-2 Integer Editor

Description

You will implement a powerful editor which can only edit one line with several operations.

This integer editor accepts five instructions:

1. r: next single input would replace the current character;
2. I: move the character pointer to the head of the line;
3. L: left shift the current character pointer unless it is at the leftmost place;
4. R: right shift the current character pointer unless it is at the rightmost place;
5. d: delete the current character;

Otherwise, each input would insert before the current character.

This integer editor always coverts a **one-line** keyboard input containing operations and digits into a **one-line** real input with only digits .Each line has an invisible undeletable tail character called EOL (end of line), which will always stay at the end of the line in any circumstance.

Input

The first line has an integers Q for the length of the keyboard input for Integer Editor. Then the following line represents the keyboard input for Integer Editor. The aiming real input only contains digits without blanks. The input would always be valid (the input after r would never be an operation character).

Output

For each case, output one line shows the real input without EOL.

Notice

For 100% cases, having $20 \leq Q \leq 10^5$.

Notice that the undeletable property of EOL means that EOL will revive immediately at the end of the line whenever it vanishes (been replaced or deleted).

注:

第二组样例解释如下： （current指向|右边的字符）

r:|eol

6:|6eol

0:0|6eol

dddd:0|eol

L:|0eol

d:|eol

4:4|eol

d:4|eol

LL:|4eol

3:3|4eol

III:|34eol

1:1|34eol

I:|134eol

2:2|134eol