

Balanced Binary Search Tree

Given some numbers sorted in ascending order, build a balanced BST and print it in preorder traversal.

A balanced binary tree is a binary tree in which the height of the left and right subtree of any node differ by not more than 1.

Input Format

The first line of input contains an integer, N , the number of sorted elements.

Each of the next lines contains an integer represents an number.

Constraints

- The numbers are guaranteed to be sorted in ascending order.
- $0 < N \leq 10^4$
- $-10^4 \leq \text{number} \leq 10^4$

Output Format

Print the preorder traversal of the tree separated by comma.

Sample Input 0

```
7
1
2
3
4
5
6
7
```

Sample Output 0

```
4,2,1,3,6,5,7
```

Sample Input 1

```
3
1
1468
10000
```

Sample Output 1

```
1468,1,10000
```

