

<https://course.acciojob.com/idle?question=eb16a0c2-2cb3-4c56-bb75-27814d802423>

- **EASY**

- **Max Score: 30 Points**

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Insertion Sort 1

Given a sorted list with an unsorted number e in the rightmost cell, can you write some simple code to insert e into the array so that it remains sorted?

Guideline: Assume you are given the array of size N indexed $0 \dots N-1$. Store the value of `arr[N-1]`. Now test lower index values successively from $N-2$ to 0 until you reach a value that is lower than `arr[N-1]`. Each time your test fails, copy the value at the lower index to the current index and print your array. When the next lower indexed value is smaller than `arr[N-1]`, insert the stored value at the current index and print the entire array.

Print the interim and final arrays, each on a new line. No return value is expected.

Input Format

The first line contains the integer n , the size of the array `arr`.

The next line contains n space-separated integers `arr[0] arr[n-1]`.

You need to complete `insertionSort1` function which contains `arr` of size N and print the interim and final array each line in this function only.

Output Format

Print the array as a row of space-separated integers each time there is a shift or insertion.

Example 1

Input

```
5
2 4 6 8 3
```

Output

```
2 4 6 8 8
2 4 6 6 8
2 4 4 6 8
2 3 4 6 8
```

Explanation

3 is removed from the end of the array.

In the 1st line , $8 > 3$ so 8 is shifted one cell to the right.

In the 2nd line , $6 > 3$ so 6 is shifted one cell to the right.

In the 3rd line , $4 > 3$ so 4 is shifted one cell to the right.

In the 4th line , $2 < 3$ so 3 is placed at position 1.

Example 2

Input

```
5
1 2 4 5 3
```

Output

```
1 2 4 5 5
1 2 4 4 5
```

1 2 3 4 5

Explanation

3 is removed from the end of the array.

In the 1st line , $5 > 3$ so 5 is shifted one cell to the right.

In the 2nd line , $4 > 3$ so 4 is shifted one cell to the right.

In the 3rd line , $3 < 4$ so 3 is placed at position 2.

Constraints

$1 \leq n \leq 1000$

$-1000 \leq \text{arr}[i] \leq 1000$

Topic Tags

- [Sorting](#)
- [Arrays](#)

My code

```
// n java
import java.util.*;
import java.lang.*;
import java.io.*;

public class Main
{
    public static void main (String[] args) throws
java.lang.Exception
    {
```

```

        //your code here
        Scanner s=new Scanner(System.in);
int n =s.nextInt();
int arr[]=new int[n];
for(int i=0;i<n;i++)
    arr[i]=s.nextInt();
        for(int p=0;p<n;p++)
for(int i=0;i<n-1;i++)
{
    if(arr[i]>arr[i+1])
        {
            for(int k=0;k<=i;k++)
                System.out.print(arr[k]+" ");
            int t=arr[i];
            arr[i]=arr[i+1];
            arr[i+1]=t;
            for(int k=i+1;k<n;k++)
                System.out.print(arr[k]+" ");
            System.out.print("\n");
        }

//  for(int k=0;k<n;k++)
//  System.out.print(arr[k]+" ");
// System.out.print("\n");
}
for(int k=0;k<n;k++)
    System.out.print(arr[k]+" ");
// System.out.print("\n");

}

```

}