



<b>Section No.</b>	01	<b>Section Name</b>	Coding for Product Development Companies
<b>Q Paper No.</b>	05	<b>Topic Name</b>	Data Structures
<b>Total Marks</b>	30	<b>Time Limit</b>	90 minutes

### Q.1) Laxman's Encrypt

Laxman now wants to encrypt his messages for Neeraj.

He comes up with a simple thought. As everyone else wasn't as intelligent as him, he gives you the code to encrypt his messages for him

He tells you to implement a stack to swap the first character with the last, the second last with the second ... and so on as long as you don't end up swapping back again.

He gives you the string S.

Use a stack and encrypt it for him.

#### Input:

First line has a String S.

#### Output:

Print the string required

#### Sample Input:

whatisthis

#### Sample Output:

sihtsitahw



### Q.2) Queueing Stacks

You have a Queue of stack of size  $K$   
each queue has a stack of length  $L[i]$   
Tell me what order where the numbers pushed in  
If  $j > i$   $j$  was inserted later into the queue/stack

#### Input Format

First line contains  $K$ ,  
Then the next  $K$  number contain  $L[i]$ , followed by  $L[i]$  numbers, i.e  $L[i]+1$  numbers for the next  $K$  lines.

#### Constraints

$1 < K < 100$   
 $1 < L[i] < 100$

#### Output Format

how the numbers were given as input

#### Sample Input

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

#### Sample output:

```
2 3 1 5 4
```



### Q.3) The Parking Problem

The Truckies will roll again on this summer's street parade.

Each year, the organisers decide on a fixed order for the decorated trucks.

Experience taught them to keep free a side street to be able to bring the trucks into order.

The side street is so narrow that no two cars can pass each other.

Thus, the truckie that enters the side street last must necessarily leave the side street first.

Because the trucks and the ravers move up closely, a truck cannot drive back and re-enter the side street or the approach street.

The street looks like this:

```
=====
|
|=====
|
|
|
|
|
|
|
|
```

You are given the order in which the truckies arrive. Write a program that decides if the truckies can be brought into the order that the organisers want them to be.

#### Input Format:

Number of test cases  $t$ , followed by the test cases.

Each test case has: There are several test cases.

The first line of each test case contains a single number  $n$ , the number of Truckies.

The second line contains the numbers 1 to  $n$  in an arbitrary order.

All the numbers are separated by single spaces.

These numbers indicate the order in which the trucks arrive in the approach street.

No more than 1000 truckies participate in the street parade.

#### Output Format:

For each test case your program has to output a line containing a single word "yes" if the love mobiles can be re-ordered with the help of the side street, and a single word "no" in the opposite case.

#### For ex. Input:

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

#### Output:

```
yes
```



Explanation:

Initial condition:

