

# SECRET MESSAGES; THE SQUARE CODE

One classic method for composing secret messages is called a square code. The spaces are removed from the english text and the characters are written into a square (or rectangle). For example, the sentence "If man was meant to stay on the ground god would have given us roots" is 54 characters long, so it is written into a rectangle with 7 rows and 8 columns.

```
ifmanwas
meanttos
tayonthe
groundgo
dwouldha
vegivenu
sroots
```

The coded message is obtained by reading down the columns going left to right. For example, the message above is coded as:

```
imtgdvs fearwer mayoogo anouuio ntnnlvt wttddes aohghn sseoau
```

## **Input:**

First line of input contains an integer 't' which is the number of test cases. Followed by 't' test cases. Each case starts with an integer 'l' which is the number of lines in the message. Followed by 'l' lines of message in english with no spaces between the words.

## **Output:**

Output displays 't' lines each is the encoded message of each case. (Watch out that no "garbage" characters are printed.)

## **Sample:**

### **Input:**

```
2
3
haveaniceday
feedthedog
chillout
4
Win?
hsa
aum
tre
```

**Output:**

hfc aeh vei edl atl nho ieu cdt eo dg a y  
what isur name ?