Message in Roman Wars

In early wars of Julius Caesers period, messages were sent in wars. These messages were secrets. Even person who take message from one end to another did not knew about the whats in there. You have to get the correct message from the encrypted message.

Input Format

Every encrypted message contain charater u' at the end of each encrypted word. Note that, character u' doesn't appear same as u' in encrypted message.

The encryption is done by shifting original characters in alphabat with some value. We use English alphabat here. It can be shifted in both ways.

The first line contains how many test cases.(n)
Then n lines are followed for encrypted messages

Constraints

characters from

a -> z

Output Format

The decypted message should be printed

Sample Input

2 vncsfmmbv crrorjbx

Sample Output

umbrella zoology

Explanation

In first test case every letter is shifted by 1 letter. u' became v', m' became n' and other letters followed the same pattern. You will notice that last letter is u' and its also encrypted. But it should not printed as the real decrypted word.

In second test case, decrypted message is 'zoology', this is shifted by 3 letters. 'z' is the last letter of the series. But shifting 1 from last, it will again start form 1st letter.