

**STA Online Computer Programming Contest (DWITE)  
February 2004**

**Problem 4**

**Simple Transposition Cipher**

The simple transposition method of ciphering can be described as follows: Suppose John would like to send Ron the following message:

Please note the new registration dates for the club.

One way to do this would be for John to remove all of the spaces, punctuation, digits and any non-letters, convert to upper case and then write the message in lines with four characters each.

PLEASENOTETHENEWREGISTRATIONDATESFORTHECLUB

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John would then write out each column, top to bottom, from left to right, as follows:

PSTERSTDSTLLEENETIAFHUENTEGROTOEBAOHWIANERC

He does not include the spaces, from the last row, and then he tacks on the word 'FOUR' in reverse at the end of the message. He then sends the message to Ron.

PSTERSTDSTLLEENETIAFHUENTEGROTOEBAOHWIANERC RUOF

Ron receives the message and knows that John always sends the cipher using the simple transposition method and always puts his letters in groups of 2, 4, 5, 6, 9 or 10. (ie. TWO, FOUR, FIVE, SIX, NINE or TEN will be tacked on in reverse at the end of the message).

Your job is to decipher the messages sent from John to Ron.

The input file (DATA4) will contain five lines of data. Each line will contain up to 255 characters, representing the message that Ron receives.

The output file (OUT4) will contain five lines of data, corresponding to each line of the input file. Each line will contain the original message sent from John to Ron in upper case, without the non-letters.

**Sample Input (Only two lines given)**

PSTERSTDSTLLEENETIAFHUENTEGROTOEBAOHWIANERCRUOF  
TDEAHIRKESTTGUHRONEELDOEXIS

**Sample Output**

PLEASENOTETHENEWREGISTRATIONDATESFORTHECLUB  
THEGOLDISUNDERTHEOAKTREE