Problem 1. «An encryption table»

Mary read a book about history of cryptography and found an interesting cipher. It encrypts messages consisting of letters from English alphabet (26 letters from «A» to «Z»). For encryption one needs to choose a codeword of length n in English alphabet and construct an encryption table T of the size $n \times n$ in the following way. The first column is filled by the letters of the chosen codeword. Then each row is filled by letters in alphabetical order starting with the letter in the first cell.

A message is encrypted letter by letter. The ciphertext for a message of length t consists of t ordered pairs of integers (i, j), where i is the row number and j is the column number in the table T of a current letter.

	1	2	3	4
1	M	N	O	P
2	A	B	C	D
3	R	S	T	U
4	Y	Z	A	B

An example. Let the codeword be MARY. Then the ciphertext for the message CRYPTO is (2,3) (3,1) (4,1) (1,4) (3,3) (1,3).
But for the message RSA the ciphertext could be (3,1) (3,2) (2,1) or (3,1) (3,2) (4,3).

Mary has encrypted a sentence using this cipher. As a result she got the following ciphertext, where all spaces in the text are saved:

(8,1) (7,8) (1,1) (2,6) (5,5) (7,5) (11,7) (7,8) (5,7) (8,11) (9,1) (3,1)
(6,1) (7,5) (7,6) (7,5) (1,10) (2,5) (7,5) (7,4) (2,7) (11,2) (3,9) (1,11)
(6,3) (7,8) (7,5) (11,6) (7,9) (1,5) (9,8) (1,4) (7,5)
(3,1) (5,9) (6,4) (8,8) (5,10) (7,5) (3,11) (9,1) (1,8) (7,8) (7,5) (9,10)

Try to read it if you know that the codeword was of length 11, the encryption table contained all English letters and a fragment of it was:

M	N	O
S	T	U
R	S	T