PLAYFAIR CIPHER TUTORIAL

<BACKGROUND>

Cipher: An algorithm for encrypting or decrypting messages.

Encryption: We take our original message and disguise it somehow, so an outside party will not be able to read it.

Decryption: We take the encrypted message and convert it back to its original form. We can now read the secret message!

<PLAYFAIR CIPHER EXAMPLE>

You must hurry, we don't have much time…

Our partner has sent us the password to give us access to the corporation's mainframe. He had to scramble it so that no one could see its contents other than us (below is an example, not the actual table from the challenge).

Here is the encrypted password:

"LCEYNVSPNC"

The password has been encrypted using something called a "Playfair Cipher".

E	V	I	L	C
O	R	P	A	B
D	F	G	H	J
K	M	N	S	T
U	W	X	Y	Z

We know that the original message has been scrambled by being split up into pairs of letters. Here are the rules that our partner has used to getting this weird scrambled output:

1. If the 2 letters are on the same ROW: take the letter to the right of each one (going back to the left if at the farthest right. ex. IL become LC
2. If 2 letters are on the same COLUMN: take the letter below each one (going back to the top if at the bottom). ex. IP become PG
3. If the 2 letters form 2 corners of a BOX: each letter is replaced with its other corner letter on the same row. ex. LU become EY

NOTE: If a letter is located at the end of a row (ex. B) or the very bottom of a column (ex. X), its corresponding scrambled letter would simply wrap over to the start of the given row or column. So, B would become O and X would become I.
To decrypt a message, we do the opposite of the encryption instructions. If 2 scrambled letters are on the same row, then the actual letters will be on the LEFT of each letter instead of the right. Etc.

Therefore, decrypting our secret message gives this:

Encrypted	LC	EY	NV	SP	NC
Decrypted	IL	LU	MI	NA	TI

You don't have much time until the password will automatically be reset and all of our hard work will go to waste!

Good luck!