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Playfair Cipher Project

The purpose of my program is to encipher words and phrases using a type of cipher that goes by the name “The Playfair Square.” First, a short keyword is chosen without any repeating letters which sets up the 5 by 5 square of all the letters of the alphabet (i and j are combined to create 25 letters). For example, if ‘COLIN’ is the key word, then the square would look like this:

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

When enciphering a word, two letters are taken at a time and depending upon where they are in relation to each other on the square. This is represented by each of the classes in my program. If two letters are in the same row, then a class called ‘*sameRow*’ is executed. This class finds the letter to the right of each of the letters. If we were trying to encipher the two letters CI, then they would output to ON. If two letters are in the same column then a class called ‘*sameColumn*’ is executed. This takes the two letters that are in the same row and finds the letter below each of them. If we were trying to encipher the letters ET, then the output would be MY.

When two letters being enciphered are not in the same row nor the same column, then the hard part begins. If the two letters are CZ, then the output is comes from the *x* value from

the C and the *y* value of Z for one of the letters and for the other letter you take the *x* value from Z and the *y* value from C. Then the result would be NV. A simpler way of looking at this is to create a box around the letters with both of them in the corners and then use the other corners as the output. This same process will take place when the '*square*' class is executed.

Creating each of these classes has been the bulk of my work on the program so far and I intend on developing the keyword portion next.