

HOMEWORK 01

Part 1 and Part 2:

The code is divided into three different functions: `getPos()`, `getPattern()`, and `getSimilar`.

The first function will receive as parameters a word and a letter, and it will return the first time that letter appears in the word given.

The second function only receives a word as parameter, and using the previously mentioned `getPos()` function, will return a word with a specific patron; if a letter has never appeared before, a letter will be placed in its index, and if it has appeared at least once, then the index will be the same as in the first appearance.

Finally we have the `getSimilar()` main function. This function will use a word and also a database of words (user decides name of file). The program will use the `getPattern()` function first with the input word and then, it will go over all of the words of the database, using also the `getPattern()` function. Finally will compare each word with the input and if there is a match, it will store the database word into a list that at the end of the program will be displayed in the console.

Part 3:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
	g	l	m	e	n	o	p			d	r	a	c	b	s	t	u	i		h	w		y	f	z

VUMQ KG XGR BEQ VUEF XGR NLGPP M NUSDHMFZEE VSQU M PNSEFQSPQ?

M PQELFCX VGLKEK CEQQEL YLGD QUE EQUSNP OGMLK.

What do you get when you cross a chimpanzee with a scientist?

A sternly worded letter from the ethics board.

Part 4:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	n	e	o	c	m	w	l	p	g		h		d	u	v	x	b		t	f	y	s	r	i	a

7 12 26 20 14 4 22 4 15 14 4 7 12 3 2 22 4 15 12 26 16 3 2 15 6
3 24 25 5 5 4 14 3 23

24 26 20 12 3 24 20 12 26 2 26 8 9 12 26 18 3 20 25 5 ?

26 2 23 7 3 24 : 20 12 3 23 26 6 3 20 12 25 2 10 . 23 25 6 9 8 3 23
15 18 23 20 26 20 25 4 2 23

24 3 9 8 26 5 3 4 2 3 23 22 6 18 4 8 4 21 9 8 26 25 2 20 3 17 20 7
25 20 12 4 2 3

23 22 6 18 4 8 4 21 5 25 9 12 3 24 20 3 17 20 .

What do you do when you have numeric codes rather than alphabetic?

answer: the same thing. simple substations

replace one symbol of plaintext with one symbol of ciphertext

Observations:

Working in a group was beneficial because it allowed us to bounce ideas off each other. We also benefited from creating our own key diagram to map letters to. Since there was not enough data we could not complete the key for both parts 3 and 4.