Question 1. In the 7th assignment you were asked to decrypt a Vernam cipher. When working on the assignment you were required only to submit the plaintext which you were able to recover from the cyphertext. When I encrypted your plaintext I used two English words for the keys. What were those words?

Solution. Our plaintext was: How can you find Will Smith in the snow follow the fresh prints. Our first key that we have used to find the plaintext was $x = (0, 9, 22, 3)$ and the second key to find the plaintext was $y = (10, 9, 15, 8, 24)$. Corresponding each key to the letters, we have $x = (A, J, W, D)$ and $y = (K, J, P, I, Y)$. However, running through the alphabet cycle once for each letter,

0	9	22	3	10	9	15	8	24
A	J	W	D	K	J	P	I	Y
B	K	X	E	L	K	Q	J	Z
C	L	Y	F	M	L	R	K	A
D	M	Z	G	N	M	S	L	B
E	N	A	H	O	N	T	M	C
F	O	B	I	**P**	**O**	**U**	**N**	**D**
G	P	C	J	Q	P	V	O	E
H	Q	D	K	R	Q	W	P	F
I	R	E	L	S	R	X	Q	G
J	S	F	M	T	S	Y	R	H
K	T	G	N	U	T	Z	S	I
L	U	H	O	V	U	A	T	J
M	V	I	P	W	V	B	U	K
N	W	J	Q	X	W	C	V	L
O	X	K	R	Y	X	D	W	M
P	Y	L	S	Z	Y	E	X	N
Q	Z	M	T	A	Z	F	Y	O
R	A	N	U	B	A	G	Z	P
S	B	O	V	C	B	H	A	Q
T	C	P	W	D	C	I	B	R
U	D	Q	X	E	D	J	C	S
V	**E**	**R**	**Y**	F	E	K	D	T
W	F	S	Z	G	F	L	E	U
X	G	T	A	H	G	M	F	V
Y	H	U	B	I	H	N	G	W
Z	I	V	C	J	I	O	H	X

From the table above, we see that the two words **VERY** and **POUND** are used to encrypt the plaintext into plaintext.