Lab Problems-1

1. Write a program take text file as an input and print word, character count and ascii value of each characters as output. (Hint: Use open(), read() and split())
2. Write a encryption program

Input: computerscienceengineeringsrmuniversity

Output: gsqtyxivwgmirgiirkmriivmrkwvqyrmzivwmxc

Hint: key =4 (play with ascii value)

Lab Problem-2

Raju send an encrypted message (cipher text) “PHHW PH DIWHU WKH WRJD SDUWB” to Rani. Can you build decryption process and find out what is the message (plain text) send to Rani?

Hint: try all keys

Lab Problem-3

Raju send encrypted message “ZICVTWQNGKZEIIGASXSTSLVVWLA” to Rani. Can you build decryption process and find out what is the message send to Rani.

Hint: try all keys for each character

Lab Problem-4

Kohli have plain text "`wewishtoreplaceplayer`". Can you build encryption process and find out what is the cipher text he needs send to BCCI. Help him out by using monoalphabatic cipher.

Hint: use any one to one mapping between alphabets

Lab Problem-5

one to one mapping

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

Kohli sent encrypted message (Cipher text) “SEEMSEAOMEDSAMHL” to Anushka. Can you build decryption process and find out what is the message (plain text) send to Anushka.

Hint: use above one to one mapping between alphabets

Lab Problem-6

Raju want to build encrypted and decryption algorithms of Playfair Cipher. Help him to build a key matrix using the key “srmapuniversity”

```
key=input("enter key:")
L=[]
for e in key.upper():
        if e not in L:
                L.append(e)
alphabet="ABCDEFGHIKLMNOPQRSTUVWXYZ"
for e in alphabet:
        if e not in L:
                L.append(e)
key_matrix=[L[0:5],L[5:10],L[10:15],L[15:20],L[20:25]]
print(key_matrix)
```

Output:

s	**r**	**m**	**a**	**p**
u	**n**	**i/j**	**v**	**e**
t	**y**	**b**	**c**	**d**
f	**g**	**h**	**k**	**l**
o	**q**	**w**	**x**	**z**

Lab Problem-7

s	r	m	a	p
u	n	i/j	v	e
t	y	b	c	d
f	g	h	k	l
o	q	w	x	z

By using key matrix Raju want to send message “wearediscoveredsaveyourself” to Rani. Can you build encryption process and find out what is the cipher text message send to Rani by using palyfair cipher.

Output: ZIPMDLUMTXEUPNTPVCNDSTMRDZKO

Lab Problem-8

s	**r**	**m**	**a**	**p**
u	**n**	**i/j**	**v**	**e**
t	**y**	**b**	**c**	**d**
f	**g**	**h**	**k**	**l**
o	**q**	**w**	**x**	**z**

By using key matrix Raju sent encrypted message “LIIUDLTQNSLIZETQVTPKZEZFVBVZ” to Rani. Can you build decryption process and find out what is the message send to Rani by using playfair cipher.

Lab Problem-9

(a) By using key “CBDE” Raju would like send message (plain text)“HELLO WORLD” to Rani. Can you build **encryption process** and find out what is the encrypted message (cipher text) to Raju by using Hill Cipher.

(b) Also Can you build decryption process and find out what is the decrypted message (plain text) of cipher text "SLHZYATGZT" by using Hill Cipher.

Lab Problem-10

Implementation of Encryption and Decryption of Vigenère Cipher

- keyword *deceptive*

  key: deceptivedeceptivedeceptive

  plaintext: wearediscoveredsaveyourself

  ciphertext: ZICVTWQNGRZGVTWAVZHCQYGLMGJ

ciphertext: dpnxwxjzwwjqvbblzbdqu

Plaintext: ??

Lab Problem-11

Implement the Encryption and Decryption of Row Transposition

```
Key:          4 3 1 2 5 6 7

Plaintext:  a t t a c k p
            o s t p o n e
            d u n t i l t
            w o a m x y z

Ciphertext: TTNAAPTMTSUOAODWCOIXKNLYPETZ
```