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B.tech EXTC

DENS Experiment-1

```
letters = 'abcdefghijklmnopqrstuvwxyz'
```

Substitution Cipher

Encrypt

```
plain = input('Enter text: ')#substituion cipher
key = int(input('Enter key: '))
```

```
Enter text: greatsubject
Enter key: 7
```

```
d1 = {}
for i in range(len(letters)):
    d1[letters[i]] = letters[(i+key)%len(letters)]
print(d1)
```

```
{'a': 'h', 'b': 'i', 'c': 'j', 'd': 'k', 'e': 'l', 'f': 'm', 'g': 'n', 'h': 'o', 'i':
```

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```
cipher = ''
for i in plain:
    cipher += d1[i]
cipher
```

```
'n x l h a y b i q l j a'
```

Decrypt

```
d2 = {} #decrypt
for i in range(len(letters)):
    d2[letters[i]] = letters[(i-key)%len(letters)]
print(d2)
```

```
{'a': 't', 'b': 'u', 'c': 'v', 'd': 'w', 'e': 'x', 'f': 'y', 'g': 'z', 'h': 'a', 'i':
```

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```
decipher = ''
for i in cipher:
```

```
decipher+=d2[i]
decipher

'greatsubject'
```

Transposition Cipher

```
plain = input('Enter plain text: ')#Transposition
key = int(input('Enter key: '))
```

```
Enter plain text: helloworld
Enter key: 8
```

Encrypt

```
cipher=''
for i in range(len(plain)):
    cipher += plain[(i-key)%len(plain)]
print(cipher)
```

```
lloworldhe
```

Decrypt

```
decipher=''
for i in range(len(plain)):
    decipher += cipher[(i+key)%len(plain)]
print(decipher)
```

```
helloworld
```

Conclusion

Both Substitution cipher technique and Transposition cipher technique are the types of Traditional cipher which are used to convert the plain text into cipher text.

Substitution Cipher Technique: In Substitution Cipher Technique plain text characters are replaced with other characters, numbers and symbols as well as in substitution Cipher Technique, character's identity is changed while its position remains unchanged.

Transposition Cipher Technique: Transposition Cipher Technique rearranges the position of the plain text's characters. In transposition Cipher Technique, The position of the character is changed but character's identity is not changed.

