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Ques1: Implement monoalphabetic and polyalphabetic cipher substitution operation.

Code :

```
# CSC/21/05 uddhisuta bakshi
from itertools import permutations
def Monoalphabetic(Plaintext):
    permutation_List=permutations(Plaintext)
    for temp in list(permutation_List):
        print(''.join(temp))
Plaintext=input("Enter a Plain text :- ")
print("Appling Monoalphabetic cipher substitution---------> Possible Cipher text :- ")
Monoalphabetic(Plaintext)
```

Output:

```
Enter a Plain text :- aari
Appling Mono alphabtic cipher substituion---------> Possible Cipher text :-
aari
aair
arai
aria
aiar
aira
aari
aair
arai
aria
aiar
aira
raai
raia
raai
raia
riaa
riaa
iaar
iara
iaar
iara
iraa
iraa
```

-Polyalphabetic cipher substitution

CODE :

```
# CSC/21/5 UDDHISUTA BAKSHI
from itertools import permutations
def polyalphabetic(Plaintext,key):
    result = []
    for i in range(len(Plaintext)):
        x = (ord(Plaintext[i]) +ord(key[i % len(key)])) % 26
        x += ord('A')
        result.append(chr(x))
    print("" . join(result))
```

Plaintext=input("Enter a Plain text :- ")
key=input("Enter a Key :- ")
print("Applying Polyalphabetic cipher substitution---------> Possible Cipher text :- ")
polyalphabetic(Plaintext,key)

OUTPUT

```
# CSC/21/5 UDDHISUTA BAKSHI
from itertools import permutations
def polyalphabatic(Plaintext,key):
    result = []
    for i in range(len(Plaintext)):
        x = (ord(Plaintext[i]) +ord(key[i % len(key)])) % 26
        x += ord('A')
        result.append(chr(x))
    print("" . join(result))
Plaintext=input("Enter a Plain text :- ")
key=input("Enter a Key :- ")
print("Appling Poly alphabtic cipher substituion---------> Possible Cipher text :- ")
polyalphabatic(Plaintext,key)
```

```
Enter a Plain text :- HI AARI
Enter a Key :- DEFINE
Appling Poly alphabtic cipher substituion---------> Possible Cipher text :-
KMYINVL
```