Alice wants to send some confidential information to Bob over a secure network, you have to create perform following task

1) Provide Security using Caesar Cipher Algorithm

2) Brute Force Attack on Cipher Text

3) Provide Security Mono-alphabetic Cipher Algorithm

Code:

```
def plaintocipher():
    cipher=''
    plain=input("Enter your plain text:")
    key=int(input("Enter your key:"))
    for i in plain:
        j=ord(i)
        if i.islower():
            k=(j+key-97)%26+97
        else:
            k=(j+key-65)%26+65
        l=chr(k)
        cipher+=l
    print(f"Cipher text is: {cipher}")


def ciphertoplain():
    cipher=''
    plain=input("Enter your cipher text:")
    key=int(input("Enter your key:"))
    for i in plain:
        j=ord(i)
        if i.islower():
```

```
            k=(j-key-97)%26+97
        else:
            k=(j-key-65)%26+65
        l=chr(k)
        cipher+=l
    print(f"Plain text is: {cipher}")

def bruteforce():
    cipher=''
    plain=input("Enter your cipher text:")
    l1=[]
    for ii in range(26):
        cipher=''
        for i in plain:
            j=ord(i)
            if i.islower():
                k=(j-ii-97)%26+97
            else:
                k=(j-ii-65)%26+65
            l=chr(k)
            cipher+=l
        l1.append(cipher)
    print(*l1)

def alphanumerical():
    word={'a':'!', 'b':'@', 'c':'#', 'd':'$', 'e':'%', 'f':'^', 'g':'&', 'h':'*', 'g':'(', 'h':')', 'i':'-',
'j':'_', 'k':'+', 'l':'=', 'm':'|', 'n':'/', 'o':'?', 'p':'>', 'q':'<', 'r':',', 's':'.', 't':'`', 'u':'~', 'v':'♩',
```

'w':'∫', 'x':'Δ', 'y':'⌗', 'z':'▉', ' ':'⅔', 'A':'ˢₒₕ', 'B':'┼', 'C':'◎', 'D':'⁄', 'E':'⍁', 'F':'⍉', 'G':'⊥', 'H':'⍋', 'I':'⍿', 'J':'⍟', 'K':'ι', 'L':'ρ', 'M':'▌', 'N':'▢', 'O':'▭', 'P':'⊞', 'Q':'=', 'R':'☗', 'S':'◭', 'T':'◮', 'U':'✷', 'V':'≺', 'W':' ⌒', 'X':'⊖', 'Y':'Σ', 'Z':'❀'}

```
def encryption():
    a=input("Enter the Plain Text: ")
    cipher=''
    for i in a:
        ch=word[i]
        cipher+=ch
    print(f'the cipher text is : {cipher}')


def decryption():
    a=input("Enter the cipher Text: ")
    plain=''
    for i in a:
        ch=list(word.keys())[list(word.values()).index(i)]
        plain+=ch
    print(f'the plain text is : {plain}')


print(' press:1 for Encryption \n press:2 for decryption \n press:3 to exit to main menu')
b=int(input('Enter your choice: '))
while b!=3:
    if b==1:
        encryption()
    elif b==2:
        decryption()
    else:
```

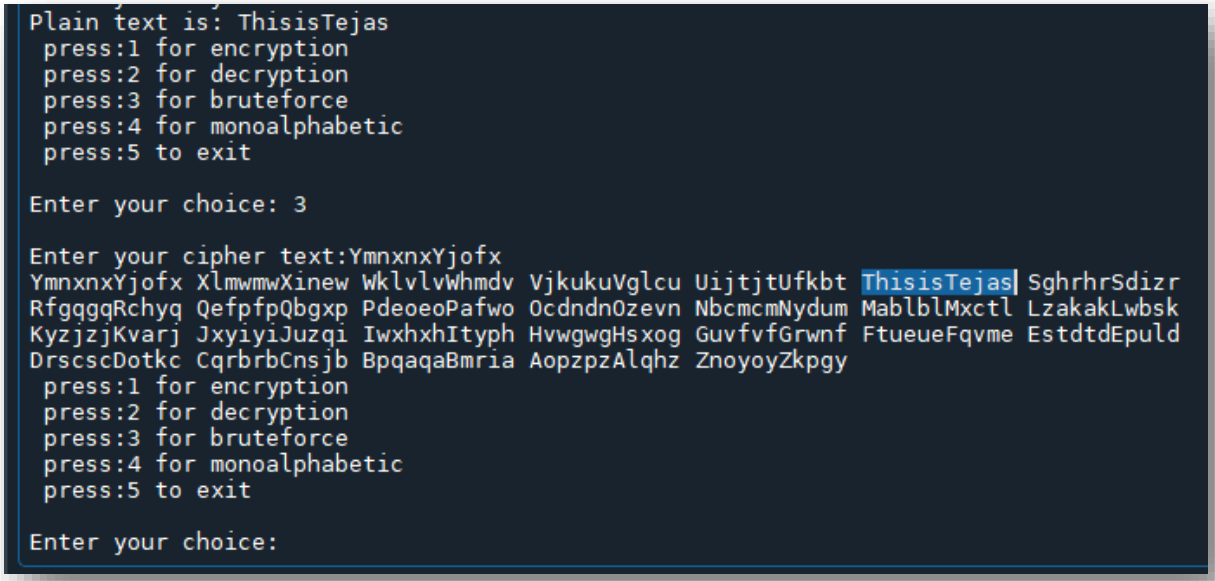
```
            continue
        print(' press:1 for Encryption \n press:2 for decryption \n press:3 to exit to main menu')
        b=int(input('Enter your choice: '))
```

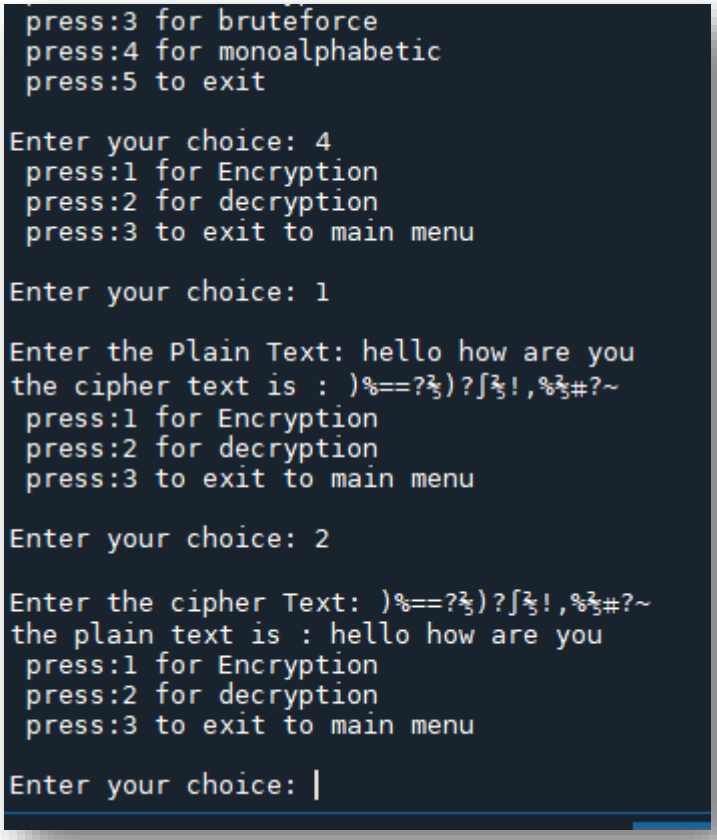
```
print(" press:1 for encryption \n press:2 for decryption \n press:3 for bruteforce \n press:4 for monoalphabetic \n press:5 to exit ")
a=int(input("Enter your choice: "))
while a!=5:
    if a==1:
        plaintocipher()
    elif a==2:
        ciphertoplain()
    elif a==3:
        bruteforce()
    elif a==4:
        alphanumerical()
    else:
        continue
    print(" press:1 for encryption \n press:2 for decryption \n press:3 for bruteforce \n press:4 for monoalphabetic \n press:5 to exit ")
    a=int(input("Enter your choice: "))
```

OUTPUT:

```
In [2]: runfile('C:/Users/Admin/s
cyber.py', wdir='C:/Users/Admin/s
 press:1 for encryption
 press:2 for decryption
 press:3 for bruteforce
 press:4 for monoalphabetic
 press:5 to exit

Enter your choice: 1

Enter your plain text:ThisisTejas

Enter your key:5
Cipher text is: YmnxnxYjofx
 press:1 for encryption
 press:2 for decryption
 press:3 for bruteforce
 press:4 for monoalphabetic
 press:5 to exit

Enter your choice: 2
```

```
Enter your choice: 2

Enter your cipher text:YmnxnxYjofx

Enter your key:5
Plain text is: ThisisTejas
 press:1 for encryption
 press:2 for decryption
 press:3 for bruteforce
 press:4 for monoalphabetic
 press:5 to exit

Enter your choice:
```


Plain text is: ThisisTejas
press:1 for encryption
press:2 for decryption
press:3 for bruteforce
press:4 for monoalphabetic
press:5 to exit
Enter your choice: 3
Enter your cipher text:YmnxnxYjofx
YmnxnxYjofx Xlmwmwxinew Wklvlvwhmdv VjkukuVglcu UijtjtUfkbt ThisisTejas SghrhrSdizr
RfggggRchyq QefpfpQbgxp PdeoeoPafwo OcdndnOzevn NbcmcmNydum MablblMxctl LzakakLwbsk
KyzjzjKvarj JxyiyiJuzqi IwxhxhItyph HvwgwgHsxog GuvfvfGrwnf FtueueFqvme EstdtdEpuld
DrscscDotkc CqrbrbCnsjb BpqaqaBmria AopzpzAlqhz ZnoyoyZkpgy
press:1 for encryption
press:2 for decryption
press:3 for bruteforce
press:4 for monoalphabetic
press:5 to exit
Enter your choice:


press:3 for bruteforce
press:4 for monoalphabetic
press:5 to exit
Enter your choice: 4
press:1 for Encryption
press:2 for decryption
press:3 to exit to main menu
Enter your choice: 1
Enter the Plain Text: hello how are you
the cipher text is :)%==?⅗)?∫⅗!,%⅗#?~
press:1 for Encryption
press:2 for decryption
press:3 to exit to main menu
Enter your choice: 2
Enter the cipher Text:)%==?⅗)?∫⅗!,%⅗#?~
the plain text is : hello how are you
press:1 for Encryption
press:2 for decryption
press:3 to exit to main menu
Enter your choice:

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