



PRACTICAL 7

AIM: Implement One time pad encryption-decryption.

Code:

```
def char_to_int(text):
```

```
    ll = []
```

```
    ll.clear()
```

```
    for char in text:
```

```
        if char.isalpha():
```

```
            if char.isupper():
```

```
                ll.append(ord(char) - 65)
```

```
            else:
```

```
                ll.append(ord(char) - 97)
```

```
    return ll
```

```
def int_to_chat(number_list):
```

```
    ll = []
```

```
    for integer in number_list:
```

```
        ll.append(chr(integer + 97))
```

```
    return ll
```

```
def otp_cipher_encoding(text,key):
```

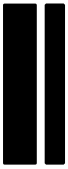
```
    plain_text_int = char_to_int(text)
```

```
    key_text_int = char_to_int(key)
```

```
    ll = []
```

```
    if(len(plain_text_int) == len(key_text_int)):
```

```
        for i in range(0,len(plain_text_int)):
```



```
s1 = plain_text_int[i] + key_text_int[i]
```

```
l1.append(s1)
```

```
for i in range(len(l1)):
```

```
    if(l1[i] > 25):
```

```
        num = l1[i] - 26
```

```
        l1[i] = num
```

```
encoding = "".join(int_to_chat(l1))
```

```
return encoding
```

```
def otp_cipher_decoding(text,key):
```

```
    decoded_int = char_to_int(text)
```

```
    key_decoded_int = char_to_int(key)
```

```
    l2 = []
```

```
    if(len(decoded_int) == len(key_decoded_int)):
```

```
        for i in range(0,len(decoded_int)):
```

```
            s2 = decoded_int[i] - key_decoded_int[i]
```

```
            l2.append(s2)
```

```
    if(l2[i] < 0 ):
```

```
        l2[i] = l2[i] + 26
```

```
    decoing = "".join(int_to_chat(l2))
```

```
    return decoing
```

```
text = input("enter the plain text: ")
```

```
key_text = input("enter the key: ")
```



ParulTM
University

Faculty Of Engineering & Technology

Subject Name: information and network security

Subject Code: 203105311

B.Tech. IT 4th Year 7th semester

```
encoded_msg = otp_cipher_encoding(text,key_text)
```

```
decoded_msg = otp_cipher_decoding(encoded_msg , key_text)
```

```
print("encoded message: ",encoded_msg)
```

```
print("decoded message: ",decoded_msg)
```

output:

```
PS C:\work\7th sem> python -u "c:\work\7th sem\INS\otp.py"
enter the plain text: xyz
enter the key: abc
encoded message: xzb
decoded message: xyz
PS C:\work\7th sem> 
```