

## ▼ ISP - Vernam Cipher

#STEP1 Getting Inputs

```
plain_text=input("Enter the message: ")
key=input("Enter the one time pad: ")
cipher_text=''
```

```
Enter the message: Good Morning
Enter the one time pad: Quantam King
```

#STEP2 Data clean : Replacing space and converting to lower

```
plain_text=plain_text.replace(" ","")
key=key.replace(" ","")
plain_text=plain_text.lower()
key=key.lower()
```

#CHECKING IF LENGTHS ARE EQUAL

```
if(len(plain_text)!=len(key)):
    print("Lengths are different")
else:
    print("Lenght EQuAL")
```



Lenght EQuAL

#LOGIC

```
cipher_text=""
```

# iterating through the length

```
for i in range(len(plain_text)):
    k1=ord(plain_text[i])-97 #GETTING INPUT ASCCI VALUE for lower
    k2=ord(key[i])-97       #GETTING KEY ASCCI VALUE for lower
    s=chr((k1+k2)%26+97)    # (k1 + k2)%26 for lower
    cipher_text+=s          # Concatenate each output
print("Enrypted message is: ",cipher_text)
```

```
Enrypted message is: wioqfodxqam
```

## ▼ Final encrypted algo

# function to apply algo of vernam cipher

```
def vernam(plain_text,key):
```

```
    # convert into lower cases and remove spaces
```

```
    plain_text=plain_text.replace(" ","")
    key=key.replace(" ","")
    plain_text=plain_text.lower()
```

```

key=key.lower()

# conditional statements
if(len(plain_text)!=len(key)):
    print("Lengths are different")

else:
    cipher_text=""
    # iterating through the length
    for i in range(len(plain_text)):
        k1=ord(plain_text[i])-97
        k2=ord(key[i])-97
        s=chr(((k1+k2))%26+97)
        cipher_text+=s
    print("Enrypted message is: ",cipher_text)

plain_text=input("Enter the message: ")
key=input("Enter the one time pad: ")
vernam(plain_text,key)

```

```

Enter the message: Popclaw
Enter the one time pad: Axelrod
Enrypted message is: pltncoz

```

## ▼ Final De-crypted algo

```

# function to apply algo of vernam cipher
def vernam(plain_text,key):

    # convert into lower cases and remove spaces

    plain_text=plain_text.replace(" ","")
    key=key.replace(" ","")
    plain_text=plain_text.lower()
    key=key.lower()

    # conditional statements
    if(len(plain_text)!=len(key)):
        print("Lengths are different")

    else:
        cipher_text=""
        # iterating through the length
        for i in range(len(plain_text)):
            k1=ord(plain_text[i])-97
            k2=ord(key[i])-97
            s=chr(((k1-k2))%26+97)
            cipher_text+=s
        print("Enrypted message is: ",cipher_text)

```

```
plain_text=input("Enter the message: ")  
key=input("Enter the one time pad: ")  
vernam(plain_text,key)
```

```
Enter the message: pltncoz  
Enter the one time pad: Axelrod  
Enrypted message is: popclaw
```

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