14. Write a python program for one-time pad version of the Vigenère cipher. In this scheme, the key is a stream of random numbers between 0 and 26. For example, if the key is 3 19 5 . . . , then the first letter of plaintext is encrypted with a shift of 3 letters, the second with a shift of 19 letters, the third with a shift of 5 letters, and so on.

Code:

```
import random

import string

# Function to generate random key for OTP

def generate_key(length):

    return [random.randint(0, 25) for _ in range(length)]

# Function to encrypt using One-Time Pad Vigenere

def otp_encrypt(plaintext, key):

    plaintext = plaintext.lower().replace(" ", "")

    ciphertext = ""

for i in range(len(plaintext)):

        p = ord(plaintext[i]) - ord('a')

        c = (p + key[i]) % 26

        ciphertext += chr(c + ord('a'))

    return ciphertext

# Function to decrypt

def otp_decrypt(ciphertext, key):

    plaintext = ""

 for i in range(len(ciphertext)):

        c = ord(ciphertext[i]) - ord('a')

        p = (c - key[i]) % 26

        plaintext += chr(p + ord('a'))

    return plaintext
```

```
# ---------- MAIN PROGRAM ----------

plaintext = "attack at once"

# Remove spaces

pt = plaintext.replace(" ", "")

# Generate key (same length as plaintext)

key = generate_key(len(pt))

cipher = otp_encrypt(pt, key)

decrypted = otp_decrypt(cipher, key)

print("Plaintext :", plaintext)

print("Key       :", key)

print("Ciphertext:", cipher)

print("Decrypted :", decrypted)
```