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1  #import random library
2  import random
3  #Create a class named Cipher
4  class Cipher:
5      #Creating the cipher key for encryption decryption
6      cipher_key = random.randint(1,50)
7      #Defining the constructor for the class
8      def __init__(self):
9          #Get the input from the user
10         print("Please enter the text to be encrypted:",end="")
11         self.text = input()
12         print("The key is: {}".format(str(self.cipher_key)))
13         #Call encrypt fucntion
14         self.e_text = self.encrypt()
15         #Call decrypt fucntion
16         self.d_text = self.decrypt()
17     #Defining encrypt module
18     def encrypt(self):
19         #Using generator expression for encrypting and filtering for alphanumeric values
20         g_en = (chr(ord(x)+self.cipher_key) for x in self.text if x.isalnum())
21         encrypted_text = ''.join(g_en)
22         print("The encrypted text is: {}".format(encrypted_text))
23         return encrypted_text
24     #Defining decrypt module
25     def decrypt(self):
26         #Using generator expression for decrypting
27         g_de = (chr(ord(x)-self.cipher_key) for x in self.e_text)
28         decrypted_text = ''.join(g_de)
29         print("The decrypted text is: {}".format(decrypted_text))
30         return decrypted_text
31
32 c1=Cipher()
```