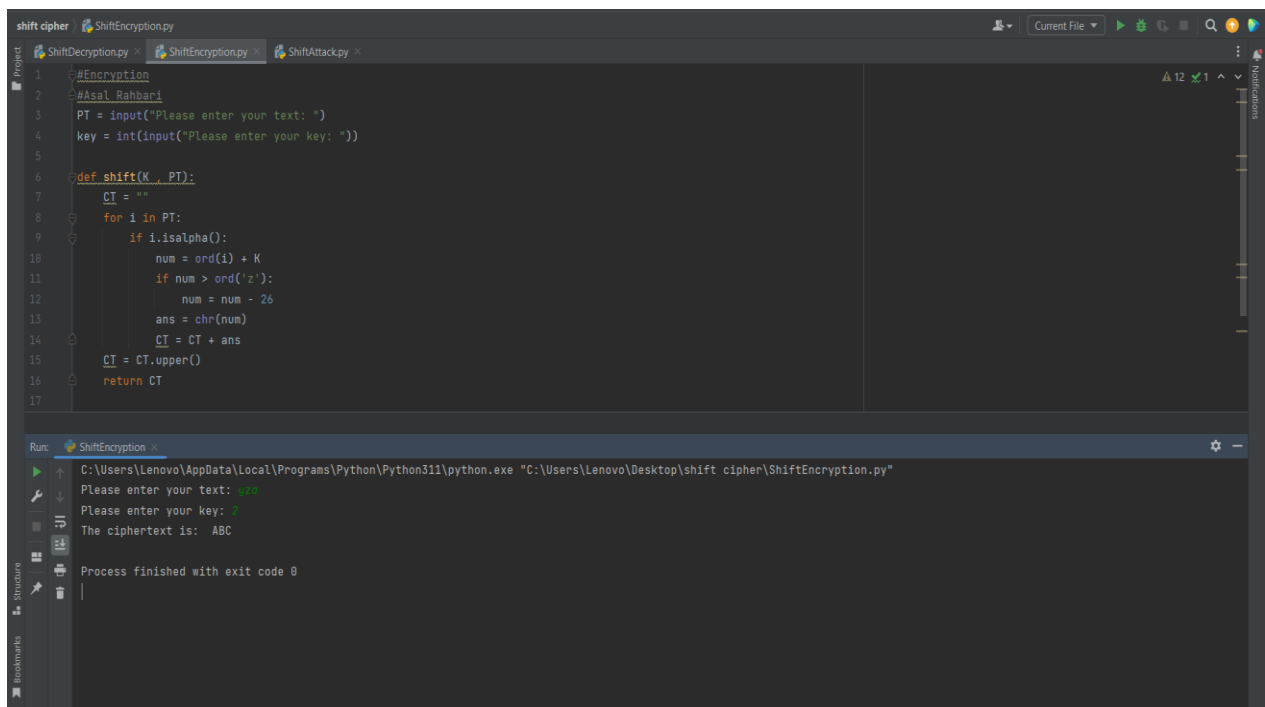


# Shift Cipher – Asal Rahbari

Encryption :

Plaintext : yza

Key : 2

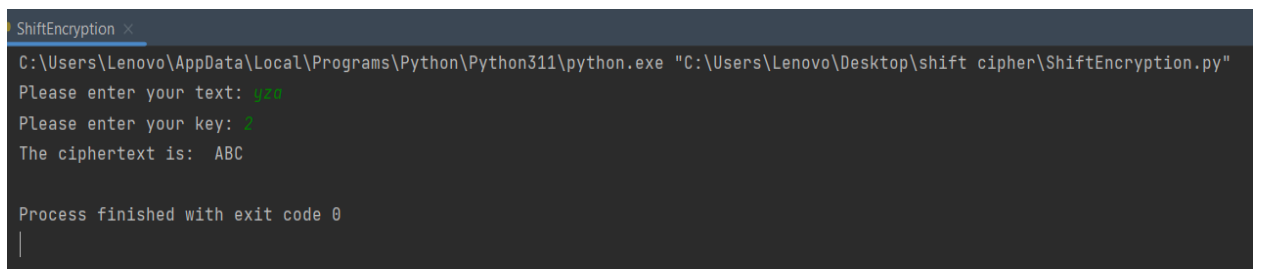


The screenshot shows a code editor with a file named `ShiftEncryption.py`. The code implements a Caesar cipher encryption function. The plaintext is "yza" and the key is 2. The ciphertext is "ABC".

```
1 #Encryption
2 #Asal Rahbari
3 PT = input("Please enter your text: ")
4 key = int(input("Please enter your key: "))
5
6 def shift(K, PT):
7     CT = ""
8     for i in PT:
9         if i.isalpha():
10             num = ord(i) + K
11             if num > ord('z'):
12                 num = num - 26
13             ans = chr(num)
14             CT = CT + ans
15     CT = CT.upper()
16     return CT
17
```

The Run console shows the execution of the program:

```
C:\Users\Lenovo\AppData\Local\Programs\Python\Python311\python.exe "C:\Users\Lenovo\Desktop\shift cipher\ShiftEncryption.py"
Please enter your text: yza
Please enter your key: 2
The ciphertext is: ABC
Process finished with exit code 0
```



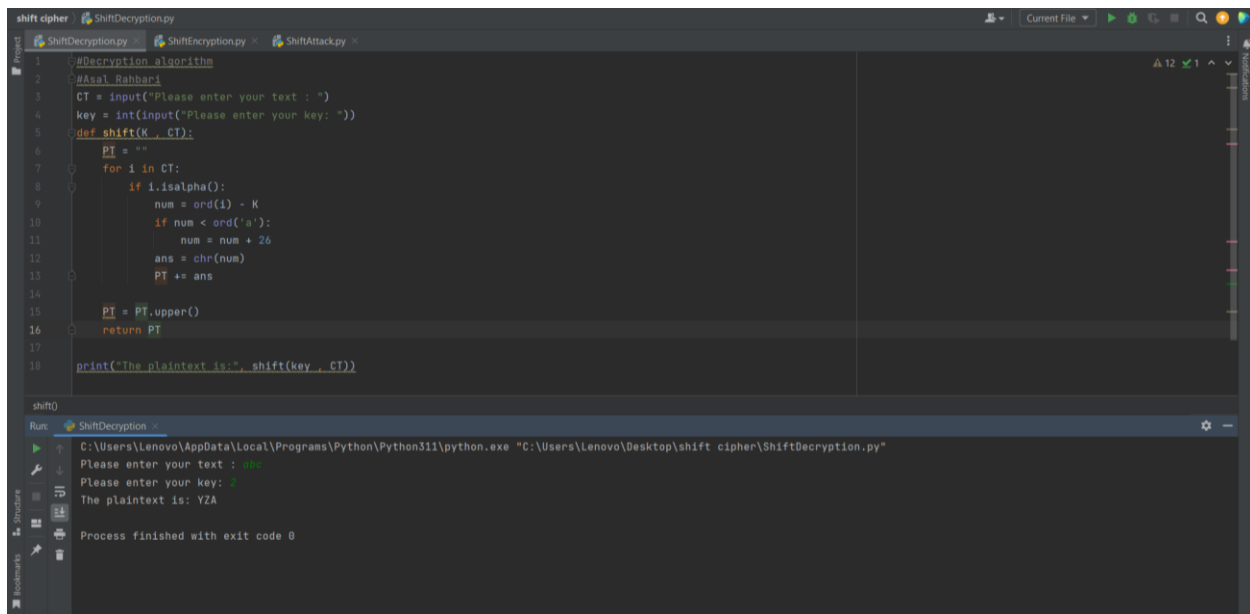
The terminal window shows the execution of the program:

```
ShiftEncryption x
C:\Users\Lenovo\AppData\Local\Programs\Python\Python311\python.exe "C:\Users\Lenovo\Desktop\shift cipher\ShiftEncryption.py"
Please enter your text: yza
Please enter your key: 2
The ciphertext is: ABC
Process finished with exit code 0
```

Decryption :

Ciphertext: abc

Key : 2

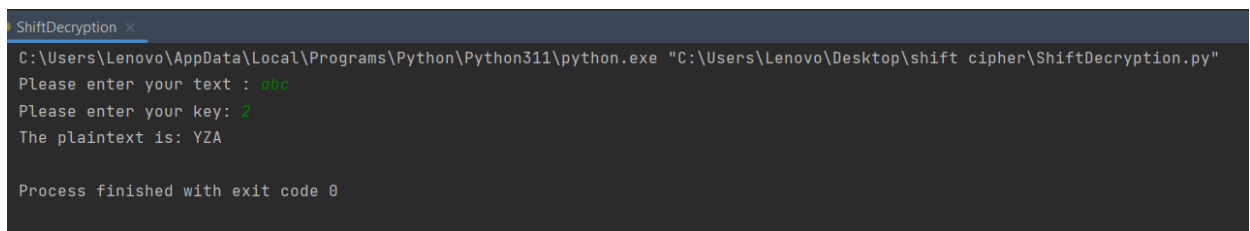


The screenshot shows a Python IDE with a project named 'shift cipher'. The file 'ShiftDecryption.py' is open, displaying the following code:

```
1 #Decryption algorithm
2 #Asal Bahhari
3 CT = input("Please enter your text : ")
4 key = int(input("Please enter your key: "))
5 def shift(K, CT):
6     PT = ""
7     for i in CT:
8         if i.isalpha():
9             num = ord(i) - K
10            if num < ord('a'):
11                num = num + 26
12            ans = chr(num)
13            PT += ans
14
15     PT = PT.upper()
16     return PT
17
18 print("The plaintext is:", shift(key, CT))
```

Below the code editor, the 'Run' console shows the execution of the script:

```
Run: ShiftDecryption.py
C:\Users\Lenovo\AppData\Local\Programs\Python\Python311\python.exe "C:\Users\Lenovo\Desktop\shift cipher\ShiftDecryption.py"
Please enter your text : abc
Please enter your key: 2
The plaintext is: YZA
Process finished with exit code 0
```



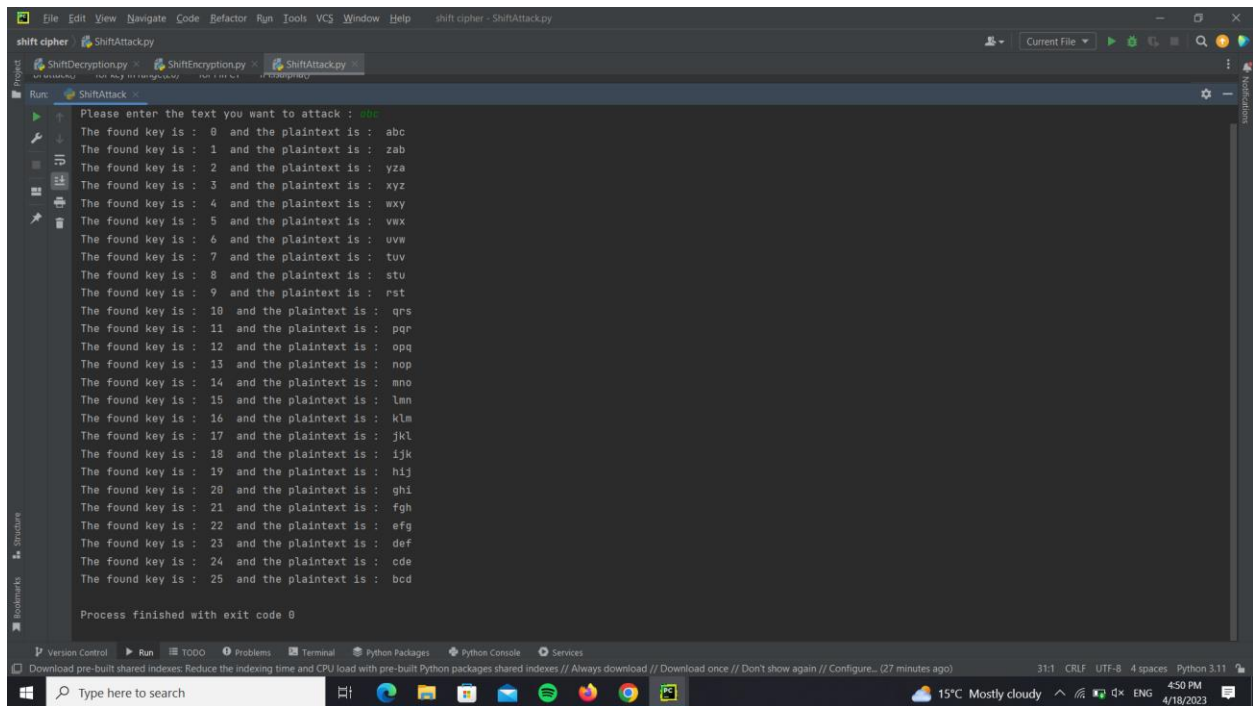
The screenshot shows a terminal window titled 'ShiftDecryption' with the following output:

```
C:\Users\Lenovo\AppData\Local\Programs\Python\Python311\python.exe "C:\Users\Lenovo\Desktop\shift cipher\ShiftDecryption.py"
Please enter your text : abc
Please enter your key: 2
The plaintext is: YZA

Process finished with exit code 0
```

Brute-force attack :

Ciphertext : abc

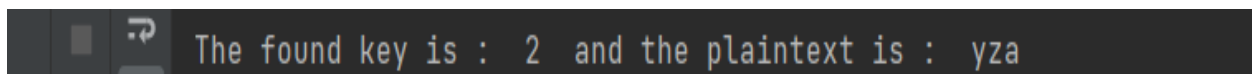


The screenshot shows a Python IDE with a project named 'shift cipher'. The 'Run' console displays the output of a brute-force attack on the ciphertext 'abc'. The program iterates through keys 0 to 25, and for each key, it prints the found key and the corresponding plaintext. The output is as follows:

```
Please enter the text you want to attack : abc
The found key is : 0 and the plaintext is : abc
The found key is : 1 and the plaintext is : zab
The found key is : 2 and the plaintext is : yza
The found key is : 3 and the plaintext is : xyz
The found key is : 4 and the plaintext is : wxy
The found key is : 5 and the plaintext is : vwx
The found key is : 6 and the plaintext is : uvw
The found key is : 7 and the plaintext is : tuv
The found key is : 8 and the plaintext is : stu
The found key is : 9 and the plaintext is : rst
The found key is : 10 and the plaintext is : qrs
The found key is : 11 and the plaintext is : pqr
The found key is : 12 and the plaintext is : opq
The found key is : 13 and the plaintext is : nop
The found key is : 14 and the plaintext is : mno
The found key is : 15 and the plaintext is : lmn
The found key is : 16 and the plaintext is : klm
The found key is : 17 and the plaintext is : jkl
The found key is : 18 and the plaintext is : ijk
The found key is : 19 and the plaintext is : hij
The found key is : 20 and the plaintext is : ghi
The found key is : 21 and the plaintext is : fgh
The found key is : 22 and the plaintext is : efg
The found key is : 23 and the plaintext is : def
The found key is : 24 and the plaintext is : cde
The found key is : 25 and the plaintext is : bcd

Process finished with exit code 0
```

The true plaintext and key :



The close-up shows the output for key 2, which is the correct solution:

```
The found key is : 2 and the plaintext is : yza
```