

readme

倪浚桐

202022161224

Lab2-progarm3

macOS Big Sur 11.5.2(20G95)

Pycharm 11.0.11 x86-64

Python 3.9.5

```
终端: main.py x +
/Users/lingfeng/Desktop/python/202022161224-倪浚桐-Lab2/Program3/main.py
(venv) lingfeng@lingfengdeMacBook-Pro Program3 % /Users/lingfeng/Desktop/python/202022161224-倪浚桐-Lab2/Program3/main.py
Please input a hex string:abcd
Please input a hex string:abcd
hexadecimal integers: 569a
Base64_str: Vpo=
```

```
1  #!/usr/bin/env python3
2
3  import base64
4
5
6  def bytes_to_hex(in_bytes: bytes) -> None:
7      print("hexadecimal integers:", end=' ')
8      print(in_bytes.hex())
9
10
11 def encode_base64(in_bytes: bytes) -> None:
12     print("Base64_str:", end=' ')
13     print((base64.b64encode(in_bytes)).decode('utf-8'))
14
15
16 def encrypt(plaintext: bytes, keyword: bytes) -> bytes:
17     ans: bytes = b''
18     for i in range(0, len(plaintext)):
19         b: int = (plaintext[i] + keyword[i]) % 256
20         ans = ans + b.to_bytes(length=1, byteorder='big', signed=False)
21     return ans
22
23
24 hex_string: str = input("Please input a hex string:")
25 plaintext_array: bytes = bytes.fromhex(hex_string)
26 hex_string: str = input("Please input a hex string:")
```

```
27 keyword_array: bytes = bytes.fromhex(hex_string)
28
29 ciphertext_array: bytes = encrypt(plaintext_array, keyword_array)
30 bytes_to_hex(ciphertext_array)
31 encode_base64(ciphertext_array)
```