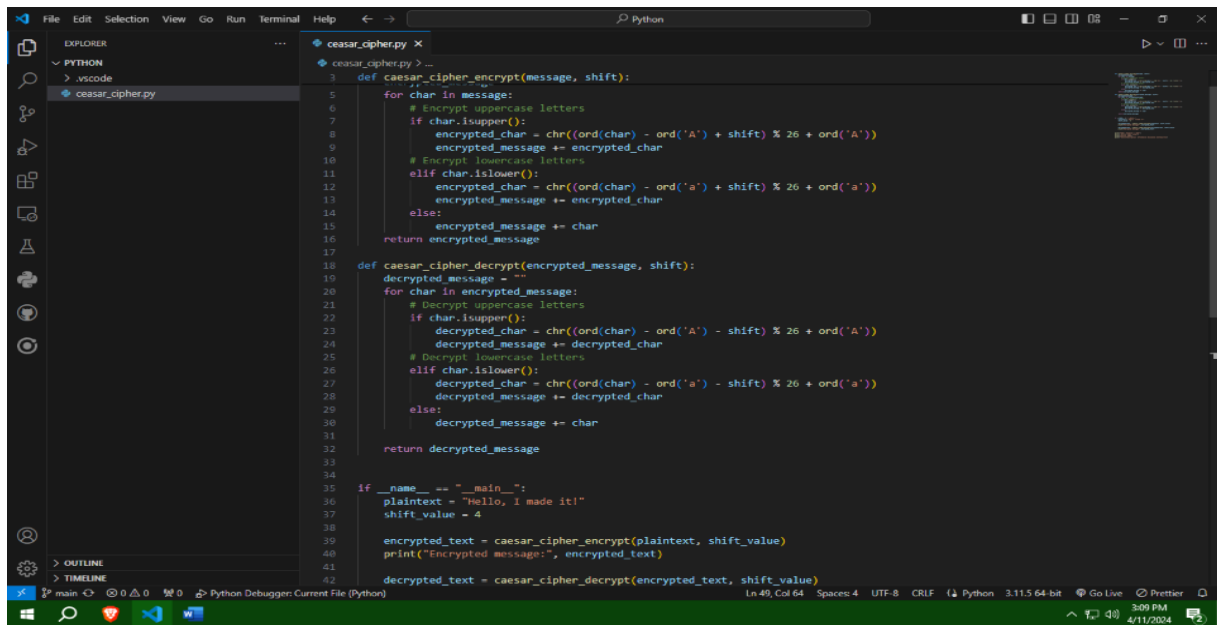


## INTRODUCTION

The Caesar cipher is a simple encryption technique that was used by Julius Caesar to send secret messages to his allies. It works by shifting the letters in the plaintext message by a certain number of positions, known as the “shift” or “key”.

## Screenshots

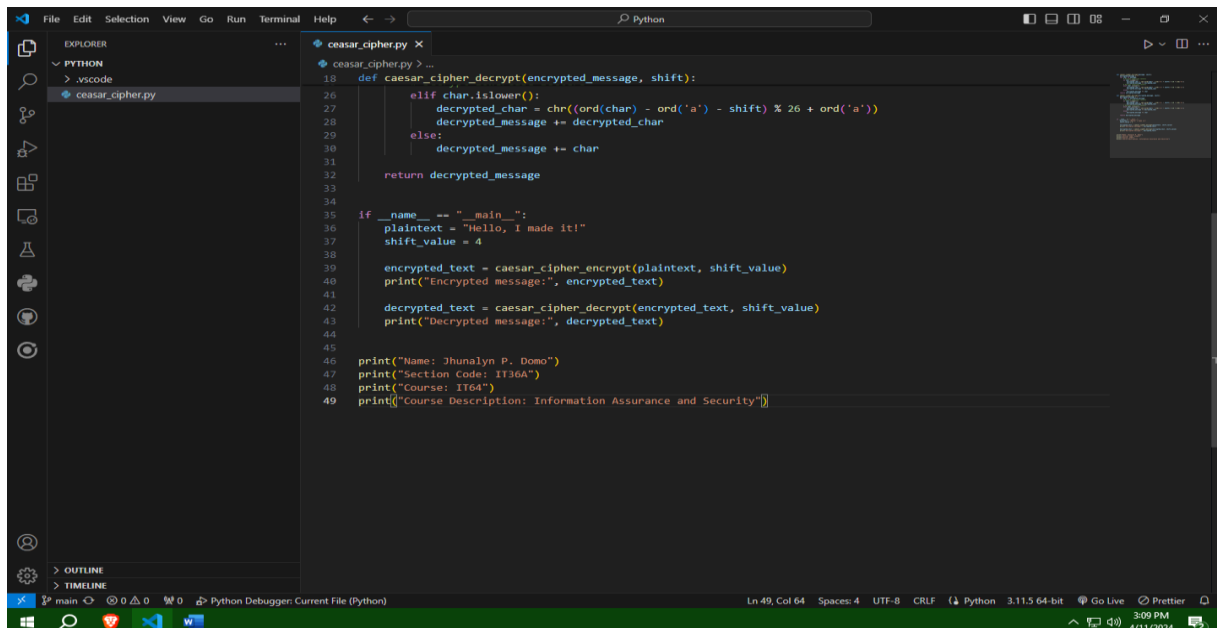


This screenshot shows the Visual Studio Code editor with a Python file named `caesar_cipher.py`. The code defines two functions: `caesar_cipher_encrypt` and `caesar_cipher_decrypt`. The `encrypt` function takes a message and a shift value, and returns the encrypted message. The `decrypt` function takes an encrypted message and a shift value, and returns the decrypted message. The main function uses these functions to encrypt the plaintext "Hello, I made it!" with a shift value of 4, resulting in the encrypted text "Jhunalyn P. Domo".

```
def caesar_cipher_encrypt(message, shift):
    for char in message:
        # Encrypt uppercase letters
        if char.isupper():
            encrypted_char = chr((ord(char) - ord('A') + shift) % 26 + ord('A'))
            encrypted_message += encrypted_char
        # Encrypt lowercase letters
        elif char.islower():
            encrypted_char = chr((ord(char) - ord('a') + shift) % 26 + ord('a'))
            encrypted_message += encrypted_char
        else:
            encrypted_message += char
    return encrypted_message

def caesar_cipher_decrypt(encrypted_message, shift):
    decrypted_message = ""
    for char in encrypted_message:
        # Decrypt uppercase letters
        if char.isupper():
            decrypted_char = chr((ord(char) - ord('A') - shift) % 26 + ord('A'))
            decrypted_message += decrypted_char
        # Decrypt lowercase letters
        elif char.islower():
            decrypted_char = chr((ord(char) - ord('a') - shift) % 26 + ord('a'))
            decrypted_message += decrypted_char
        else:
            decrypted_message += char
    return decrypted_message

if __name__ == "__main__":
    plaintext = "Hello, I made it!"
    shift_value = 4
    encrypted_text = caesar_cipher_encrypt(plaintext, shift_value)
    print("Encrypted message:", encrypted_text)
    decrypted_text = caesar_cipher_decrypt(encrypted_text, shift_value)
```



This screenshot shows the Visual Studio Code editor with the same Python file `caesar_cipher.py`. The code continues from the previous screenshot, showing the `decrypt` function and the `main` function. The `main` function uses the `decrypt` function to decrypt the encrypted text "Jhunalyn P. Domo" with a shift value of 4, resulting in the decrypted text "Hello, I made it!".

```
def caesar_cipher_decrypt(encrypted_message, shift):
    decrypted_message = ""
    for char in encrypted_message:
        # Decrypt uppercase letters
        if char.isupper():
            decrypted_char = chr((ord(char) - ord('A') - shift) % 26 + ord('A'))
            decrypted_message += decrypted_char
        # Decrypt lowercase letters
        elif char.islower():
            decrypted_char = chr((ord(char) - ord('a') - shift) % 26 + ord('a'))
            decrypted_message += decrypted_char
        else:
            decrypted_message += char
    return decrypted_message

if __name__ == "__main__":
    plaintext = "Hello, I made it!"
    shift_value = 4
    encrypted_text = caesar_cipher_encrypt(plaintext, shift_value)
    print("Encrypted message:", encrypted_text)
    decrypted_text = caesar_cipher_decrypt(encrypted_text, shift_value)
    print("Decrypted message:", decrypted_text)

    print("Name: Jhunalyn P. Domo")
    print("Section Code: IT36A")
    print("Course: IT64")
    print("Course Description: Information Assurance and Security")
```

## Result

```
46 print("Name: Jhunalyn P. Domo")

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS

o Course: IT64
  Course Description: Information Assurance and Security
  PS C:\Users\admin\Documents\Domopy\Python> ^C
  PS C:\Users\admin\Documents\Domopy\Python>
  PS C:\Users\admin\Documents\Domopy\Python> c; cd 'c:\Users\admin\Documents\Domopy\Python'; & 'c:\Users\admin\AppData\Local\Programs\Python\Python311\python.exe' 'c:\Users\admin\.vscode\extensions\ms-python.debugpy-2024.4.0-win32-x64\bundle\libs\debugpy\adapter\..\..\debugpy\launcher' '50412' '-' 'c:\Users\admin\Documents\Domopy\Python\cesar_cipher.py'
  Encrypted message: Lipps, M qehi mx!
  Decrypted message: Hello, I made it!
  Name: Jhunalyn P. Domo
  Section Code: IT36A
  Course: IT64
  Course Description: Information Assurance and Security
  o PS C:\Users\admin\Documents\Domopy\Python> 
```