**AMRUTHESH**

**241059041**

**CRYPTOLOGY**

**M.E – CYBER SECURITY**

**Introduction**

Creating a simple cipher program is a great way to understand basic encryption and decryption principles. In this example, we’ll use the Caesar Cipher, a straightforward substitution cipher, to encrypt and decrypt messages.

**Python Program for Caesar Cipher**

def encrypt\_caesar\_cipher(plaintext, shift):

encrypted\_message = ''

for char in plaintext:

if char.isalpha():

shift\_amount = shift % 26

start = ord('A') if char.isupper() else ord('a')

encrypted\_char = chr(start + (ord(char) - start + shift\_amount) % 26)

encrypted\_message += encrypted\_char

else:

encrypted\_message += char

return encrypted\_message

def decrypt\_caesar\_cipher(ciphertext, shift):

return encrypt\_caesar\_cipher(ciphertext, -shift)

if \_\_name\_\_ == "\_\_main\_\_":

message = "Hello World"

shift = 3

encrypted = encrypt\_caesar\_cipher(message, shift)

print(f"Encrypted Message: {encrypted}")

decrypted = decrypt\_caesar\_cipher(encrypted, shift)

print(f"Decrypted Message: {decrypted}")

**Conclusion**

This simple Caesar Cipher program demonstrates the basic principles of encryption and decryption. While the Caesar Cipher is not secure by modern standards, it provides a foundation for understanding more complex encryption techniques.