NNM22IS139

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caesar\_cipher:

def caesar\_cipher(text, shift, mode='encrypt'):

    result = ""

    shift = shift % 26  *# Ensure shift is within 0-25*

    for char in text:

        if char.isalpha():

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

            if mode == 'encrypt':

                result += chr((ord(char) + shift - base) % 26 + base)

            elif mode == 'decrypt':

                result += chr((ord(char) - shift - base) % 26 + base)

        else:

            result += char  *# Non-alphabetic characters are unchanged*

    return result

*# Dynamic input for encryption*

data = input("Encrypt\nInput data: ")

key = int(input("Input key (shift): "))

encrypted\_text = caesar\_cipher(data, key, mode='encrypt')

print("Output (Encrypted):", encrypted\_text)

*# Dynamic input for decryption*

data = input("\nDecrypt\nInput data: ")

key = int(input("Input key (shift): "))

decrypted\_text = caesar\_cipher(data, key, mode='decrypt')

print("Output (Decrypted):", decrypted\_text)

