# encrypting

def encrypt\_mytext(text, n, m):

result = ""

for char in text:

if char.islower():

if 'a' <= char <= 'm':

shift = n \* m

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

elif 'n' <= char <= 'z':

shift = n + m

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

else:

result += char

elif char.isupper():

if 'A' <= char <= 'M':

shift = n

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

elif 'N' <= char <= 'Z':

shift = m \*\* 2

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

else:

result += char

else:

result += char

return result

# decrypting

def decrypt\_mytext(text, n, m):

result = ""

for char in text:

if char.islower():

if 'a' <= char <= 'm':

shift = n \* m

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

elif 'n' <= char <= 'z':

shift = n + m

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

else:

result += char

elif char.isupper():

if 'A' <= char <= 'M':

shift = n

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

elif 'N' <= char <= 'Z':

shift = m \*\* 2

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

else:

result += char

else:

result += char

return result

def check\_correctness\_verify(original, decrypted):

return original == decrypted

# reading the raw dataset

with open(r"C:\Users\Dell\Downloads\HIT137 Assignment 2 S1 2025 (4)\raw\_text.txt", "r") as file:

original\_text = file.read()

# taking input from user

def take\_user():

n = int(input("User please value for n: "))

m = int(input("User please value for m: "))

return n,m

n,m=take\_user()

encrypted\_text = encrypt\_mytext(original\_text, n, m)

with open(r"C:\Users\Dell\Downloads\HIT137 Assignment 2 S1 2025 (4)\decrypted\_debug.txt", "w") as file:

file.write(encrypted\_text)

decrypted\_text = decrypt\_mytext(encrypted\_text, n, m)

if check\_correctness\_verify(original\_text, decrypted\_text):

print("Decryption successful!")

else:

print("Decryption failed!")

with open(r"C:\Users\Dell\Downloads\HIT137 Assignment 2 S1 2025 (4)\decrypted\_debug.txt", "w") as f:

f.write(decrypted\_text)

print("Saved decrypted output in 'decrypted\_debug.txt' file ")

output:

Output for question 1:



