

## CODE:

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import tkinter as tk

from tkinter import simpledialog, messagebox

Characters = "ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789"

size = len(Characters)

def vigenere_matrix():
    matrix = []

    for i in range(size):
        row = list( Characters[i:] + Characters[:i])

        matrix.append(row)

    return matrix

def matrix_index(value):
    return Characters.index(value)

def vigenere_encryption(msg, key, matrix):
    encrypt_txt = []

    key_length = len(key)

    for i in range(len(msg)):
        char = msg[i]

        if char in Characters:
            row = matrix_index(key[ i % key_length])

            col = matrix_index(char)

            encrypt_txt.append(matrix[row][col])
        else:
            encrypt_txt.append(char)

    return "".join(encrypt_txt)

def vigenere_decryption(msg, key, matrix):
    decrypt_txt = []

    key_length = len(key)

    for i in range(len(msg)):
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char = msg[i]
if char in Characters:
    row = matrix_index(key[ i % key_length])
    col = matrix[row].index(char)
    decrypt_txt.append(Characters[col])
else:
    decrypt_txt.append(char)
return "".join(decrypt_txt)
generate_matrix = vigenere_matrix()
key = 'FJ7W5JQ28rX998zHMbdJQb84kfjqk63PYWQeG0G7oUs'
encrypt_text = ""
def encrypt_button():
    global encrypt_text
    text = simpledialog.askstring("Input", "Enter text to encrypt:")
    encrypt_text = vigenere_encryption(text,key,generate_matrix)
    messagebox.showinfo("Your encrypt text ", ".join(encrypt_text))
def decrypt_button():
    global encrypt_text
    if encrypt_text:
        result = vigenere_decryption(encrypt_text,key, generate_matrix)
        messagebox.showinfo("Your encrypt text ", ".join(result))
    else:
        return messagebox.showerror("No Text found for encrypt")

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```
root = tk.Tk()

root.title("Encrypt/Decrypt Tool by Vigenere Cipher")

root.geometry("400x300")

root.configure(bg="#00FFFF")


box = tk.Frame(root, padx=10, pady=20, bd=2, relief="solid", bg="#34495e")


title_label = tk.Label(box, text="Encrypt & Decrypt Vigenere Cipher Text", font=("Helvetica", 14,
"bold"), bg="#34495e", fg="white")

title_label.pack(pady=10)


button_encrypt = tk.Button(box, text="Encrypt", command=encrypt_button, bg="#1abc9c", fg="white",
font=("Helvetica", 12, "bold"), padx=10, pady=5)

button_encrypt.pack(side="left", padx=10, pady=10)


button_decrypt = tk.Button(box, text="Decrypt", command=decrypt_button, bg="#e74c3c", fg="white",
font=("Helvetica", 12, "bold"), padx=10, pady=5)

button_decrypt.pack(side="right", padx=10, pady=10)


box.place(relx=0.5, rely=0.5, anchor="center")


root.mainloop()
```

## OUTPUT:

