

File Encryption and Decryption Tool

Proof of Funtionality

The menu shows the options to the user and the first line explains the use of the program.

```
(kali@kali)-[~/Scripting]
$ python3 rachel.py

Welcome to the file encryption / decryption tool!

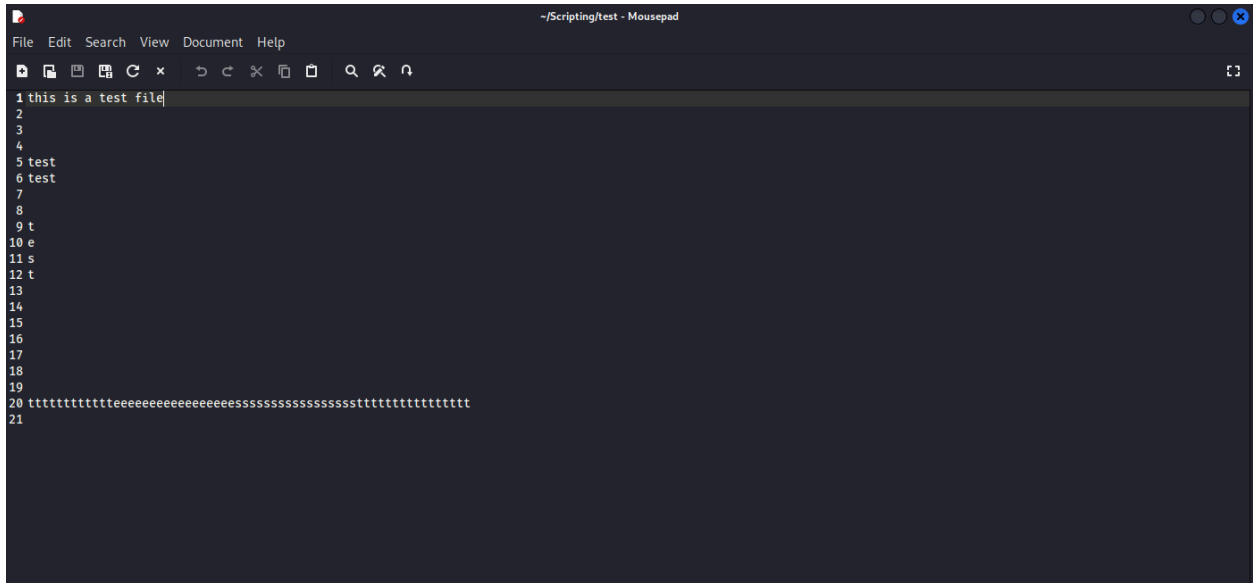
1. Generate a key using your password
2. Use existing key (using the last password)
3. Encrypt one file
4. Decrypt one file
5. Encrypt all files in a folder
6. Decrypt all files in a folder
7. Check the hash of one file
8. Exit

Please enter your choice: █
```

First step is creating a key from the password. The user can give any password.

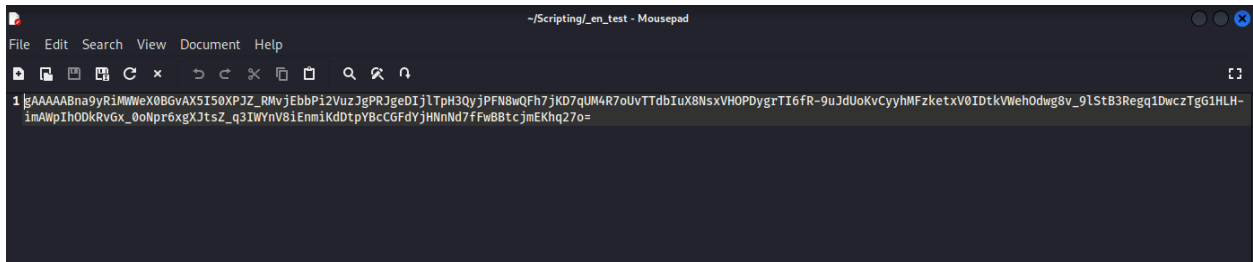
```
Enter your choice: 1
Please provide a password: cyber
```

The contents of the file are currently visible.



The file has been encrypted with the key created by the password.

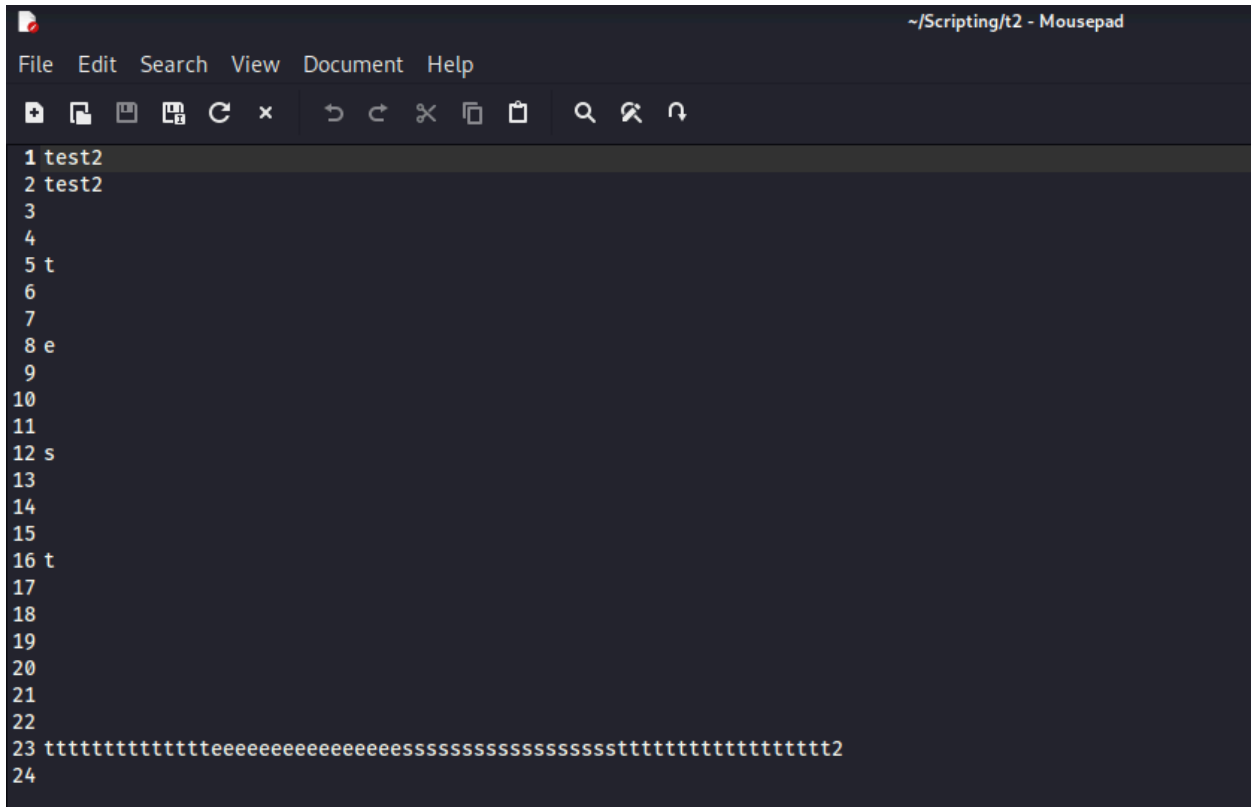
```
Enter your choice: 3
Enter a file to encrypt: test
The file has been saved as '_en_(filename)'
```



The contents of the file are no longer visible.

Next we will create a different key from a different password to encrypt another file.

This other file called t2 is currently visible.

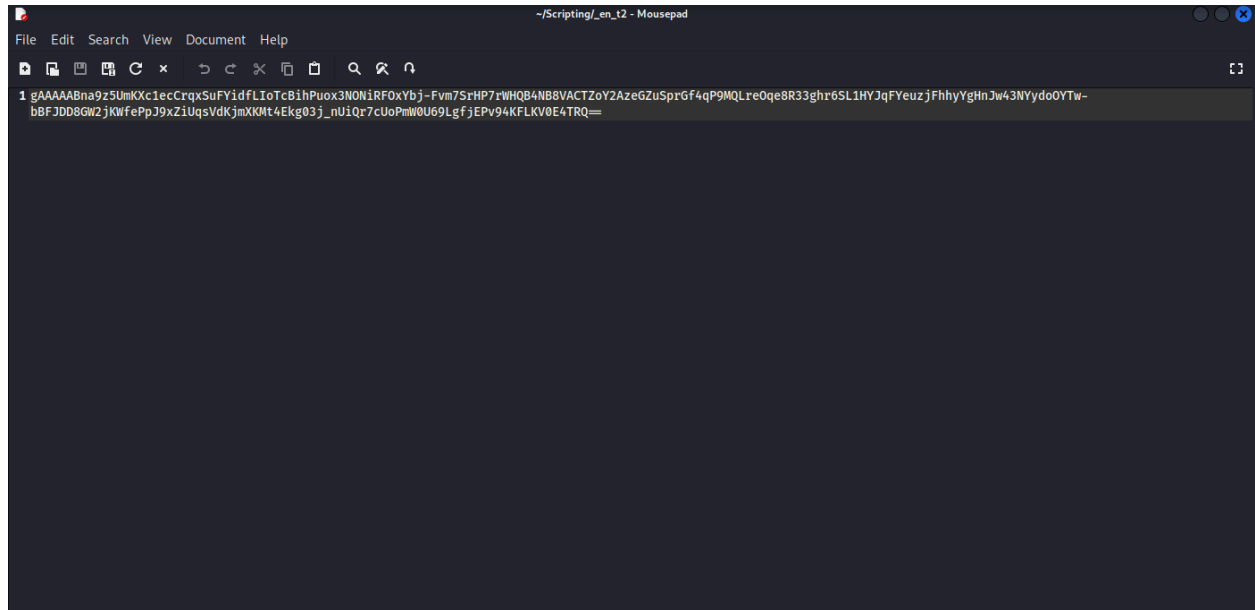


```
~/Scripting/t2 - Mousepad
File Edit Search View Document Help
1 test2
2 test2
3
4
5 t
6
7
8 e
9
10
11
12 s
13
14
15
16 t
17
18
19
20
21
22
23 tttttttttttteeeeeeeeeeeeeessssssssssssstttttttttttttt2
24
```

The file t2 is encrypted with a different key than the first file calles test.

```
Enter your choice: 1
Please provide a password: secure
```

```
Enter your choice: 3
Enter a file to encrypt: t2
The file has been saved as '_en_(filename)'
```



Now let's decrypt the file called test.

The user has to create the key again using the same password it was encrypted with.

```
Enter your choice: 1
Please provide a password: cyber
```

```
Enter your choice: 4
Enter a file to decrypt: _en_test
The file has been saved as '_de_(filename)'
```

[illegible]

The contents are visible again.

Now we will check the hash of the file.

```
Enter your choice: 7
Enter the name of the file:test

File Name: test
MD5: '1ba22f21918d81a57e603cc2f7e7e16f'
SHA1: '0f5b8966df886134e022646760d4f9f2adfedfd4'
```

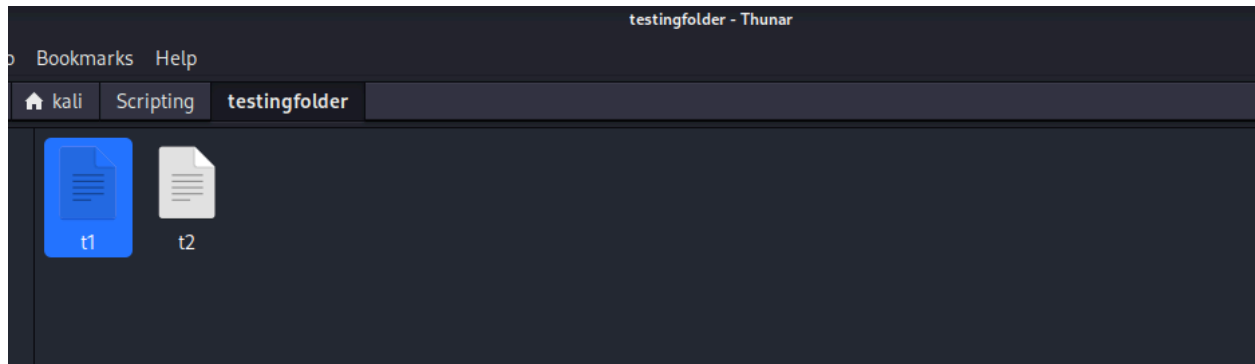
```
Enter your choice: 7
Enter the name of the file:_en__de_test

File Name: _en__de_test
MD5: '1ba22f21918d81a57e603cc2f7e7e16f'
SHA1: '0f5b8966df886134e022646760d4f9f2adfedfd4'
```

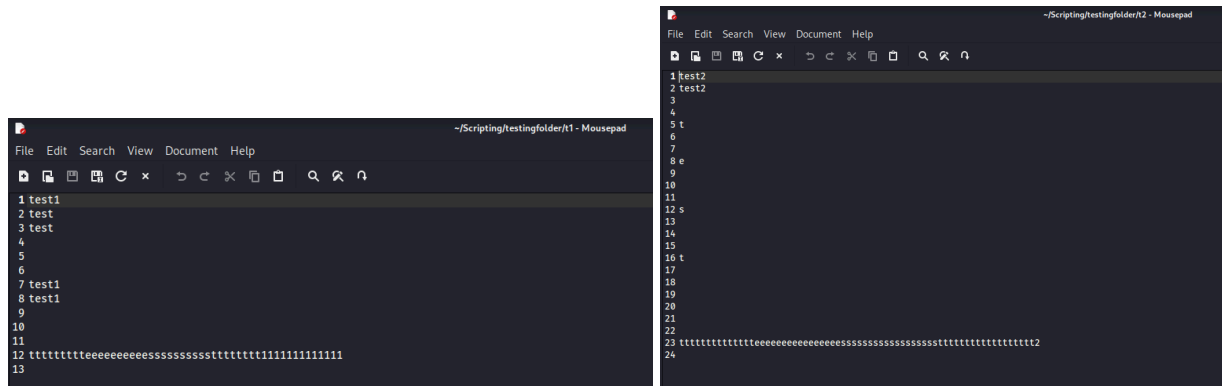
The hashes match so we know the data was not compromised and the encryption function and decryption function worked.

Lastly, we will encrypt and decrypt multiple files in a folder.

The folder called testingfolder has 2 files.

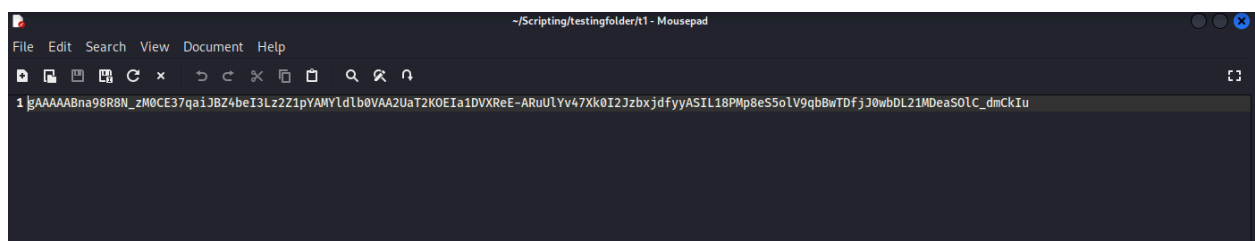


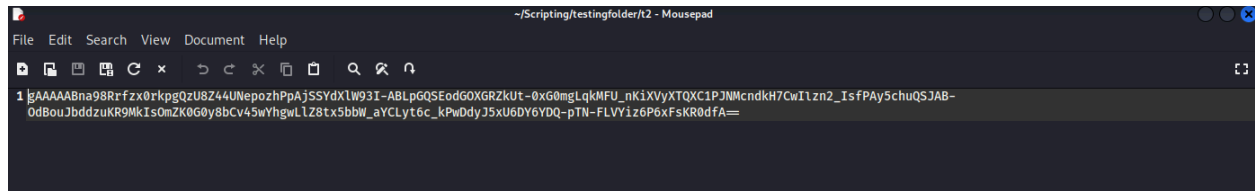
Both files are currently visible.



We will encrypt both files at once.

```
Enter your choice: 5
Please provide the path to the folder to encrypt all files: /home/kali/Scripting/testingfolder
['t2', 't1']
104
done
85
done
```

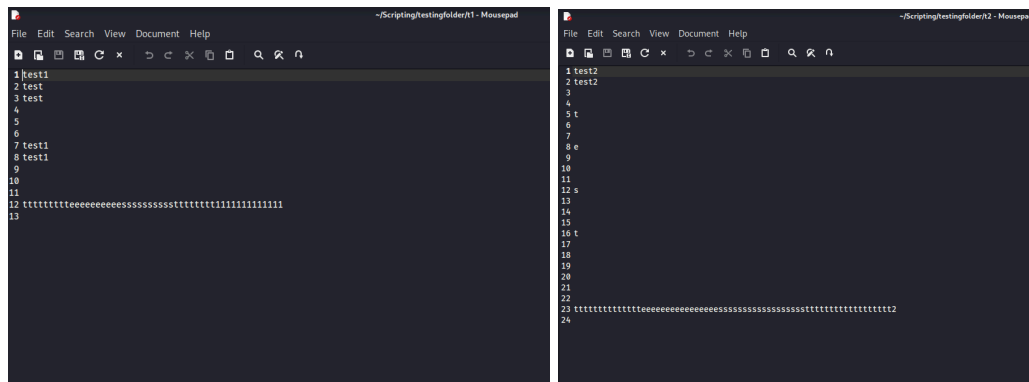




All files are now encrypted.

Now we run the program to decrypt all files in the folder.

```
Enter your choice: 6
Enter the path of the folder: /home/kali/Scripting/testingfolder
['t2', 't1']
228
done
204
done
```



All files in the folder have been decrypted.