# File Encryption and Decryption Tool

Proof of Functionality

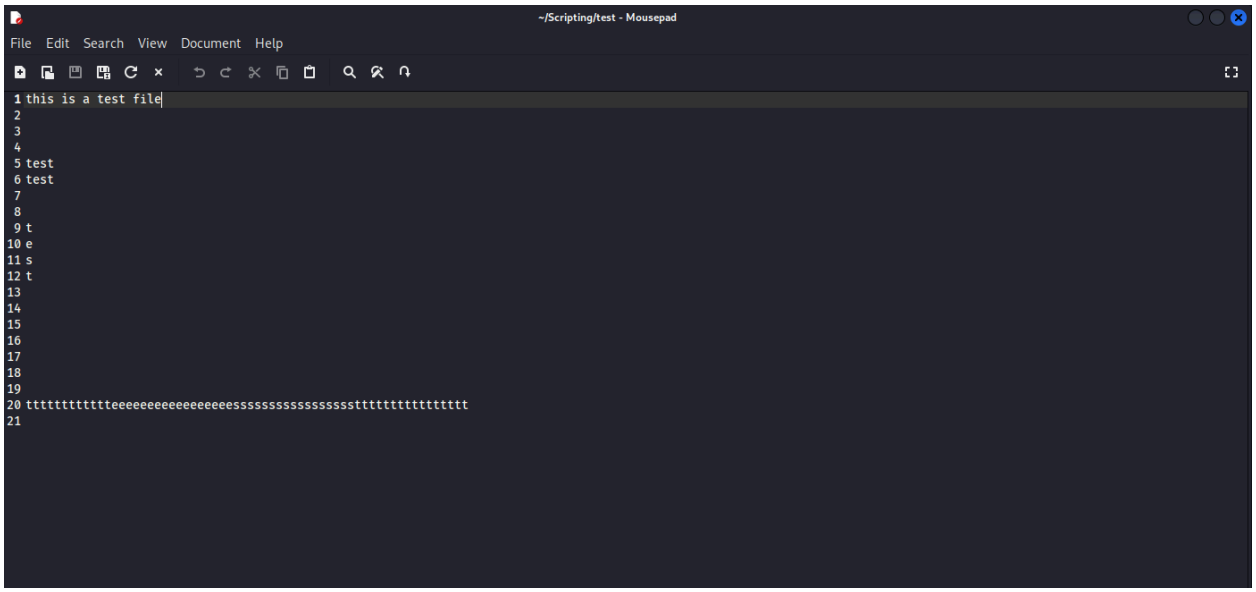
The menu shows the options to the user and the first line explains the use of the program.

```
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. Encrpyt all files in a folder
6. Decrpyt 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.



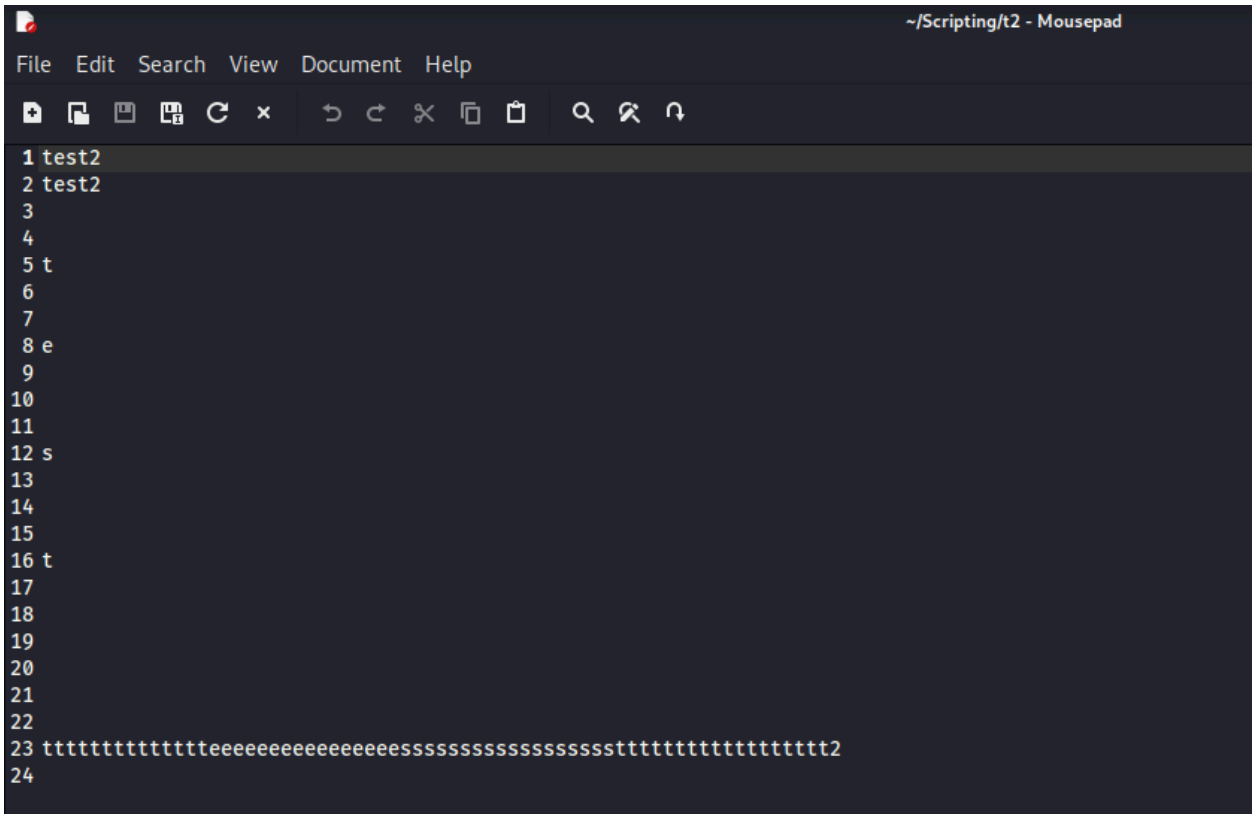
The file has been encrypted with the key created by the password.

```
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.

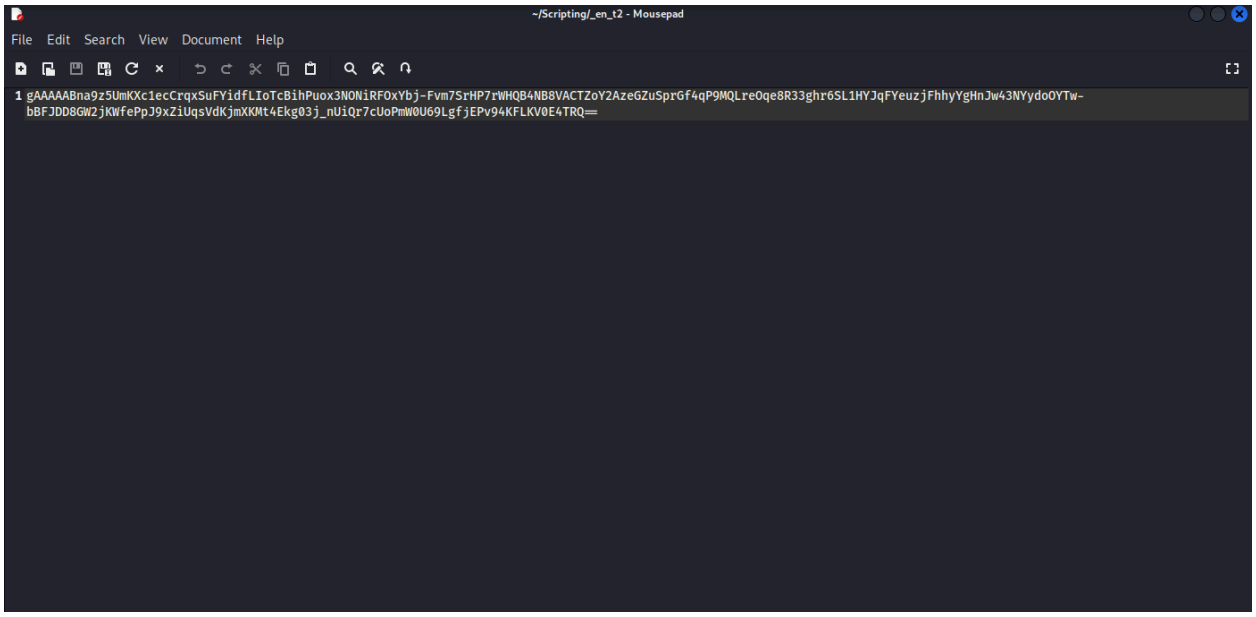
This other file called t2 is currently visible.




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)'
```

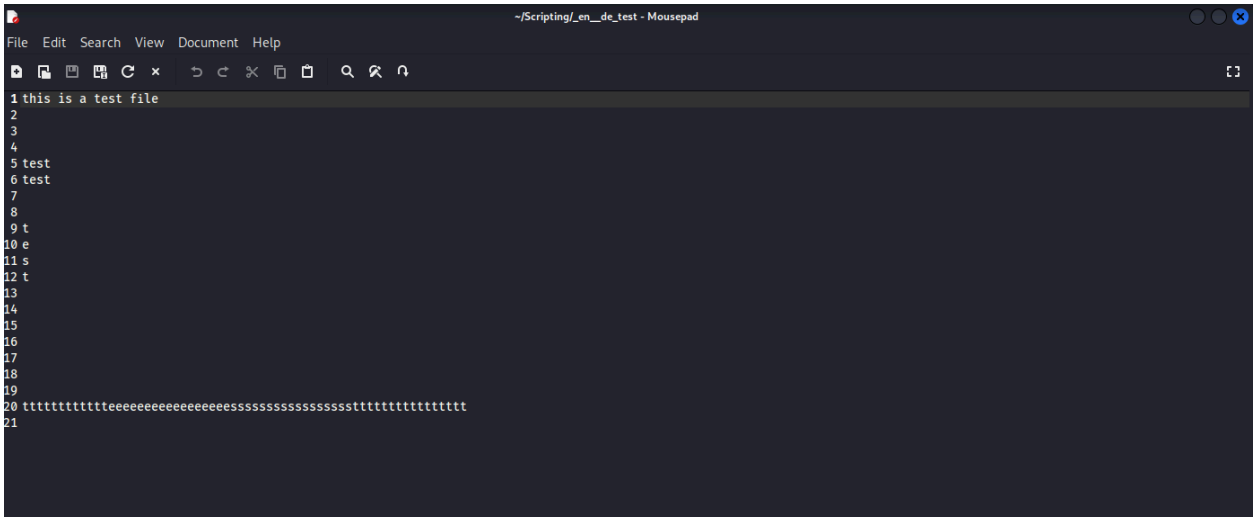

~/Scripting/_en_t2 - Mousepad
File Edit Search View Document Help
1 gAAAAABna9z5UmKXc1ecCrqxSuFYidfLIoTcBihPuox3NONiRFOxYbj-Fvm7SrHP7rWHQB4NB8VACTZoY2AzeGZuSprGf4qP9MQLreOqe8R33ghr6SL1HYJqFYeuzjFhhyYgHnJw43NYydoOYTw-
bBFJDD8GW2jKWfePpJ9xZiUqsVdKjmXKMt4Ekg03j_nUiQr7cUoPmW0U69LgfjEPv94KFLKV0E4TRQ==

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)'
```




The contents are visible again.

Now we will check the hash of the file.

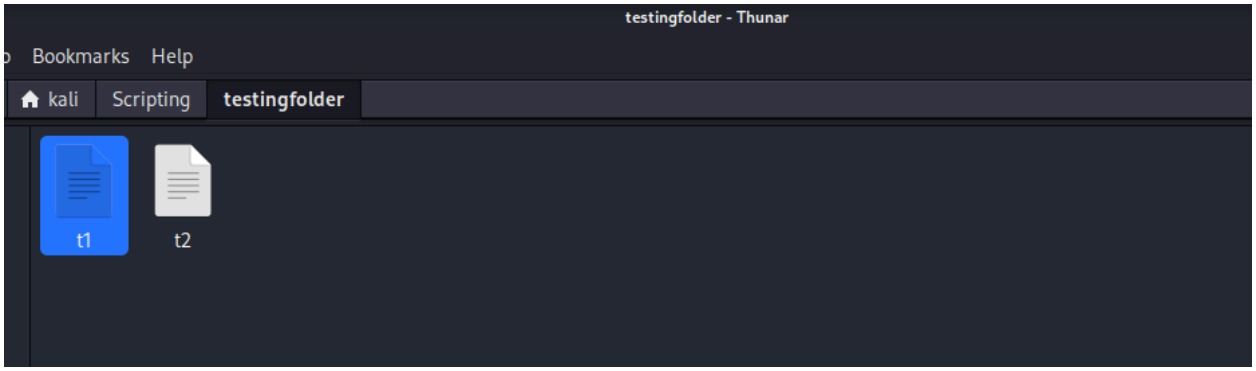
```
Enter your choice: 7
Enter the name of the file:test

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'
```

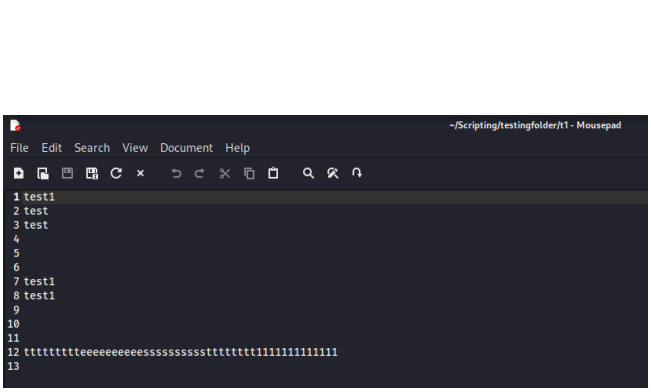
The hashes match so we know the data was not compromised and the encryption function and decryption function worked.

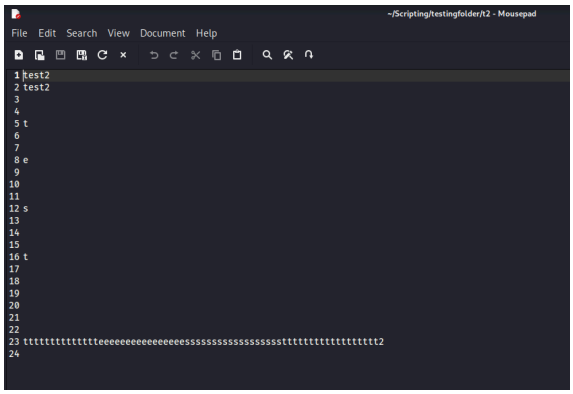
Lastly, we will encrypt and decrypt multiple files in a folder.

The folder called testingfolder has 2 files.



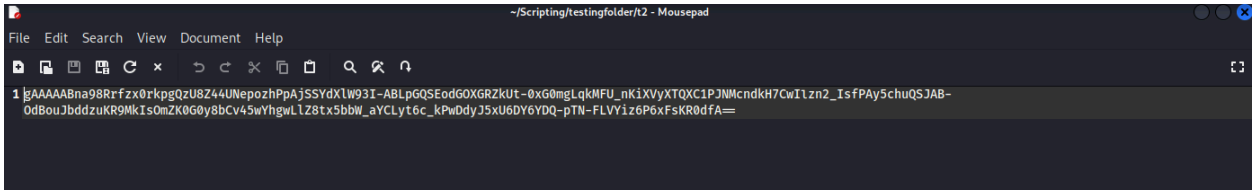

Both files are currently visible.




We will encrypt both files at once.

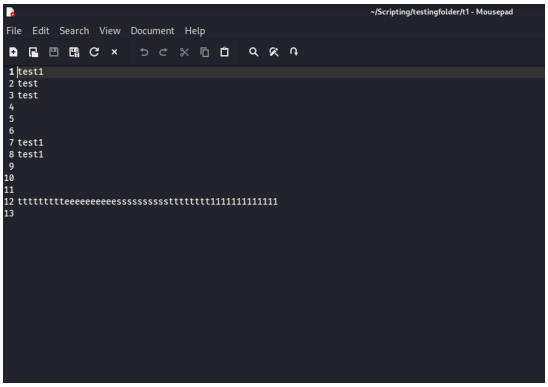
```
Enter your choice: 5
Please provide the path to the folder to encrypt all files: /home/kali/Scripting/testingfolder
['t2', 't1']
104
done
85
done
```

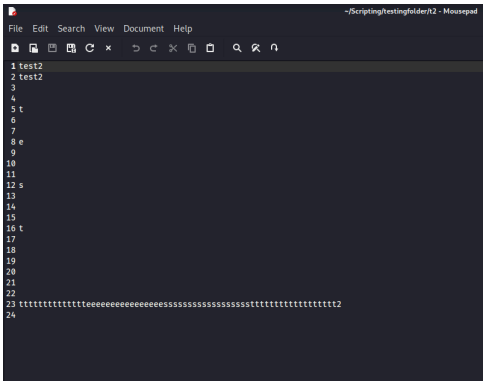



All files are now encrypted.

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.