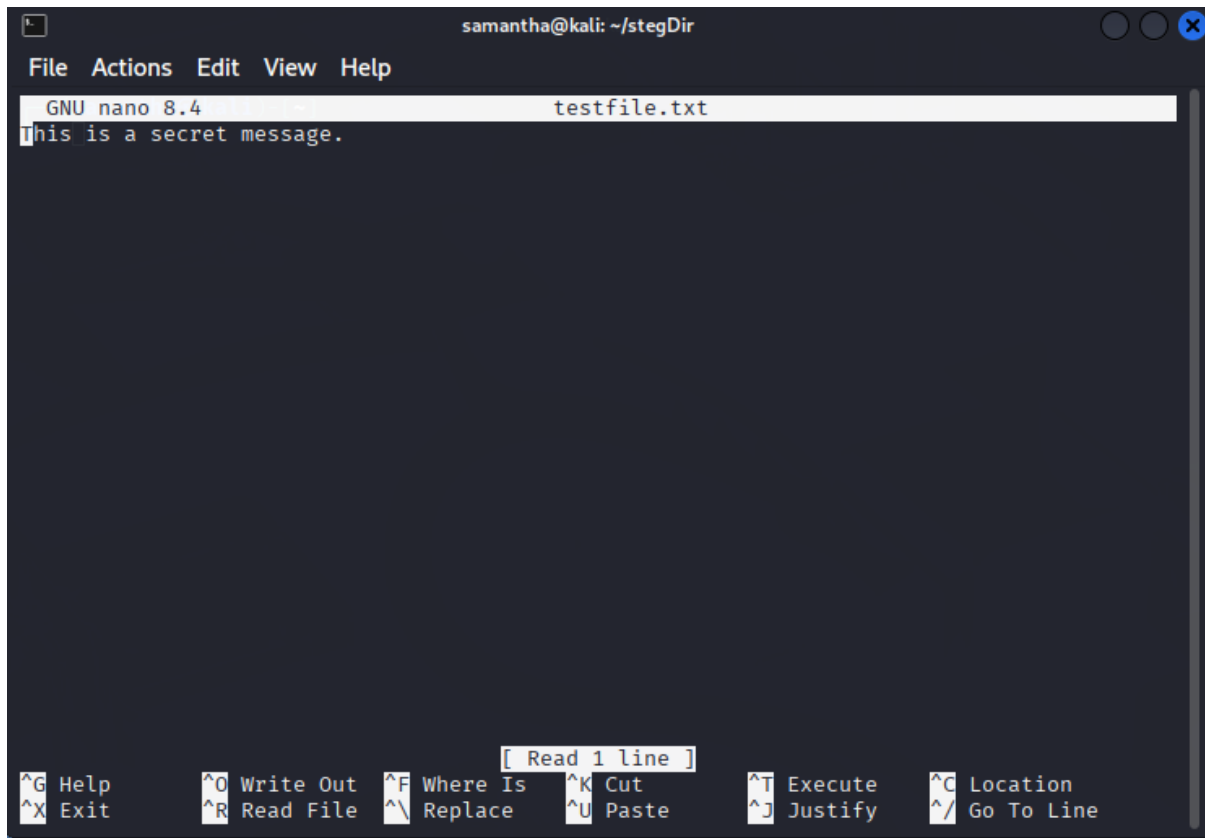


## Lab 5 – Steganography

Task 4:

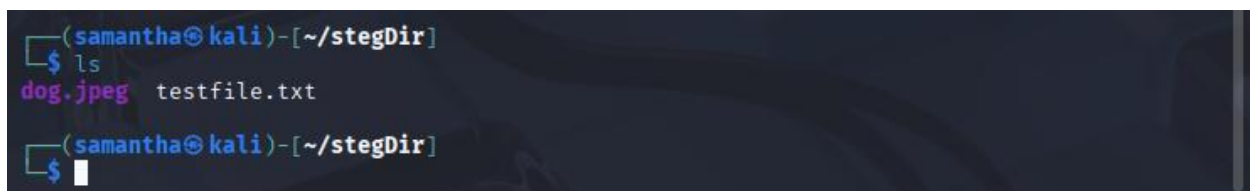


```
samantha@kali: ~/stegDir
File Actions Edit View Help
GNU nano 8.4 testfile.txt
This is a secret message.

[ Read 1 line ]
^G Help      ^O Write Out  ^F Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

\*note: I used nano instead of gedit for my text editor\*

Task 6:



```
(samantha@kali)-[~/stegDir]
└─$ ls
dog.jpeg  testfile.txt

(samantha@kali)-[~/stegDir]
└─$
```

Task 7:

```
(samantha@kali)-[~/stegDir]
└─$ md5sum testfile.txt
993d76326066b55517eb0a505c5421e9  testfile.txt

(samantha@kali)-[~/stegDir]
└─$ md5sum dog.jpeg
ebb5a7a45031c4b96261d1cf0b9be9cd  dog.jpeg
```

Task 8:

```
(samantha@kali)-[~/stegDir]
└─$ steghide embed -cf dog.jpeg -ef testfile.txt
Enter passphrase:
Re-Enter passphrase:
embedding "testfile.txt" in "dog.jpeg" ... done
```

Task 9:

```
(samantha@kali)-[~/stegDir]
└─$ md5sum dog.jpeg
b641b4de896c717d7610b13e04da3688  dog.jpeg
```

The file now has a different hash value.

Task 10:

```
(samantha@kali)-[~/stegDir]
└─$ steghide info dog.jpeg
"dog.jpeg":
  format: jpeg
  capacity: 1.4 KB
Try to get information about embedded data ? (y/n) y
Enter passphrase:
  embedded file "testfile.txt":
    size: 26.0 Byte
    encrypted: rijndael-128, cbc
    compressed: yes
```

Task 11:

```
(samantha@kali)-[~/stegDir]
└─$ rm testfile.txt

(samantha@kali)-[~/stegDir]
└─$ ls
dog.jpeg
```

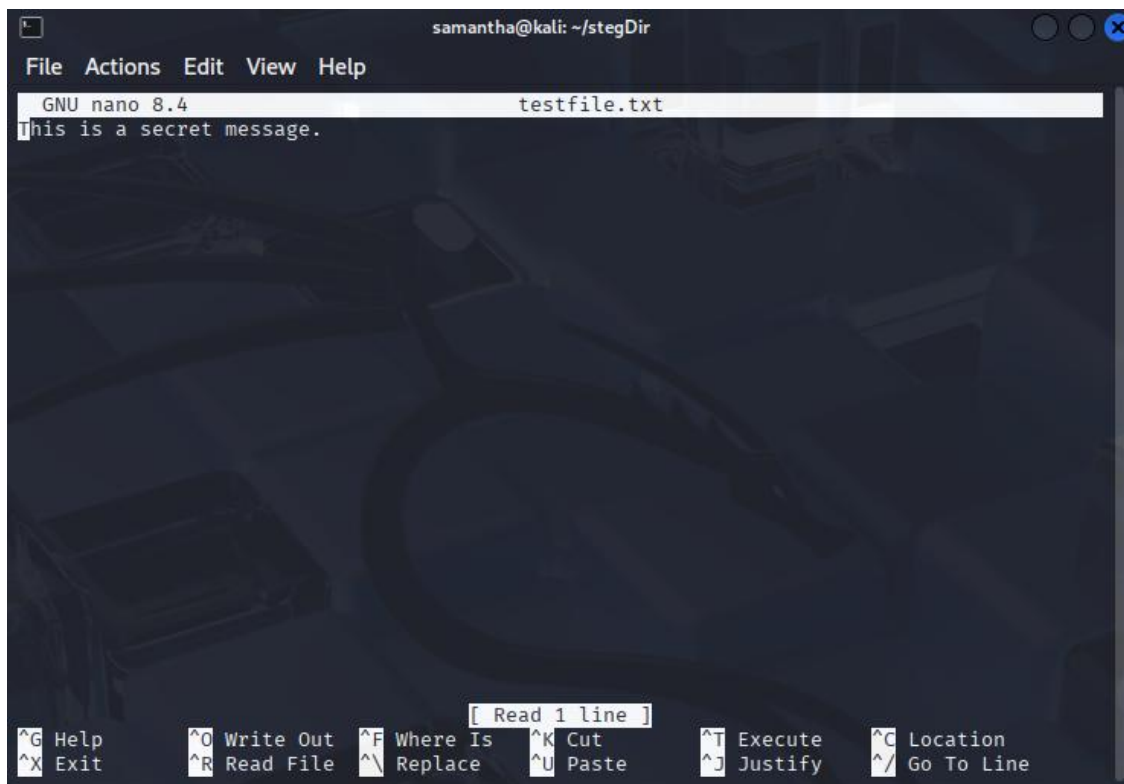
Task 12:

```
(samantha@kali)-[~/stegDir]
└─$ steghide --extract -sf dog.jpeg
Enter passphrase:
wrote extracted data to "testfile.txt".
```

Task 13:

```
(samantha@kali)-[~/stegDir]
└─$ ls
dog.jpeg testfile.txt
```

Task 14:



```
samantha@kali: ~/stegDir
File Actions Edit View Help
GNU nano 8.4 testfile.txt
this is a secret message.

[ Read 1 line ]
^G Help      ^O Write Out  ^F Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

Task 17:

```
(samantha@kali)-[~/stegDir]
└─$ exiftool dog.jpeg
ExifTool Version Number      : 13.25
File Name                    : dog.jpeg
Directory                   : .
File Size                    : 28 kB
File Modification Date/Time  : 2025:11:03 20:19:53-05:00
File Access Date/Time       : 2025:11:03 20:19:53-05:00
File Inode Change Date/Time  : 2025:11:03 20:19:53-05:00
File Permissions             : -rw-rw-r--
File Type                   : JPEG
File Type Extension         : jpg
MIME Type                   : image/jpeg
JFIF Version                 : 1.01
Resolution Unit              : inches
X Resolution                 : 0
Y Resolution                 : 0
XMP Toolkit                  : Image::ExifTool 13.25
Author                      : Samantha
Image Width                  : 710
Image Height                 : 430
Encoding Process             : Baseline DCT, Huffman coding
Bits Per Sample              : 8
Color Components              : 3
Y Cb Cr Sub Sampling        : YCbCr4:2:0 (2 2)
Image Size                   : 710x430
Megapixels                   : 0.305
```

Task 18:

Original hash after embedding:

```
(samantha@kali)-[~/stegDir]
└─$ md5sum dog.jpeg
b641b4de896c717d7610b13e04da3688 dog.jpeg
```

Hash after extracting "textfile.txt":

```
(samantha@kali)-[~/stegDir]
└─$ md5sum dog.jpeg
fbee3e48a16ff7609ca2b47661a346cf dog.jpeg
```