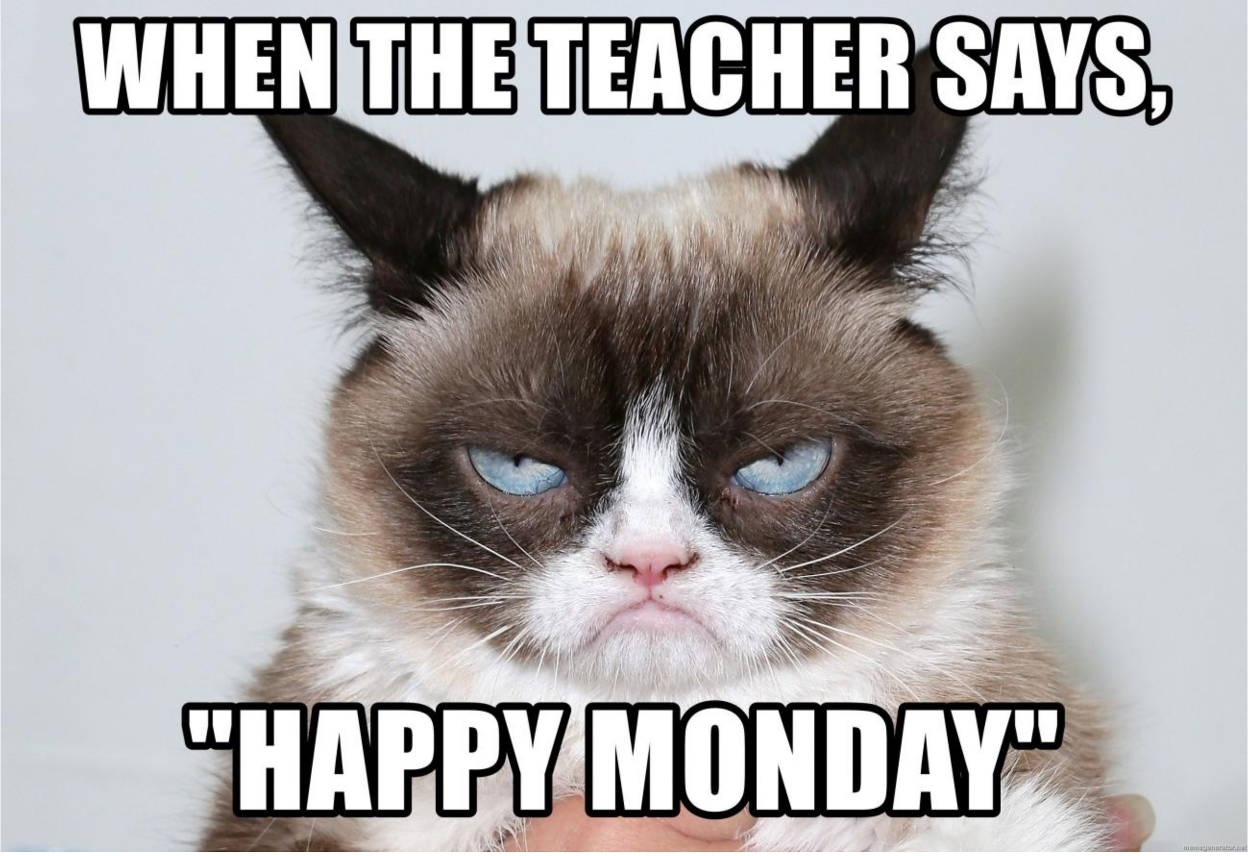
Overview

The goal of this lab was for me to get familiar with steganography and understand how secret information can be hidden or discovered within media, specifically image files. Using tools like Steghide and Strings, I was able to extract a hidden message from an image file and then practice embedding another secret message into a different image. This hands-on experience helped me understand the techniques behind concealing information and the tools used for both discovering and hiding messages within digital files.

Photo:



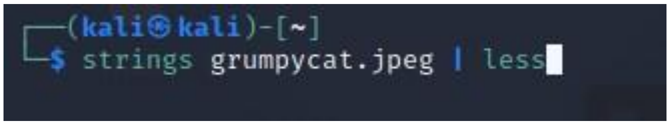
ANALYSIS:

The first step in this lab was to install and update Steghide on the Kali Linux machine using the following commands:

```
sudo apt-get update sudo apt-
get install steghide -y
```

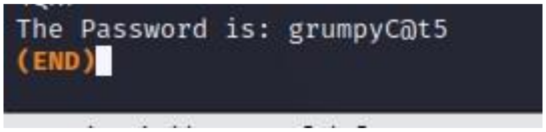
Once the installation was complete, the **grumpycat.jpeg** image file was downloaded to the system.

Using the strings command, we displayed data about the image to the screen.



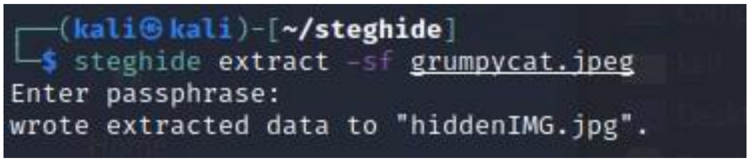
```
┌──(kali㉿kali)-[~]
└─$ strings grumpycat.jpeg | less
```

Next, the **strings** command was used to display all the readable strings from the image file. By scrolling through the output, I was able to locate a hidden password embedded within the image.



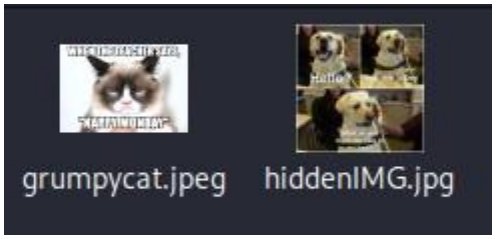
```
The Password is: grumpyC@t5
(END)
```

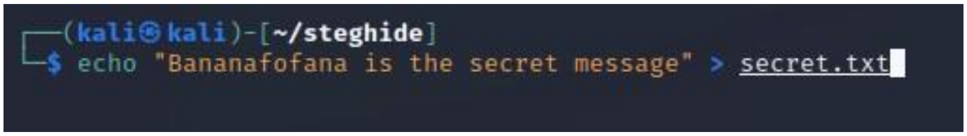
Using the discovered password and Steghide, I was able to extract the hidden message from the **grumpycat.jpeg** file. This message was successfully retrieved and stored.



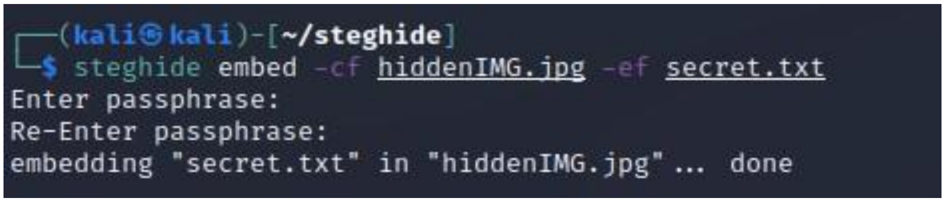
```
┌──(kali㉿kali)-[~/steghide]
└─$ steghide extract -sf grumpycat.jpeg
Enter passphrase:
wrote extracted data to "hiddenIMG.jpg".
```

For the next part of the lab, I created a secret message and saved it into a **secret.txt** file. I then used Steghide to embed this secret message into a new image, **hiddenIMG.jpg**. To keep the message secure, I set the password "Fru1t" for access.



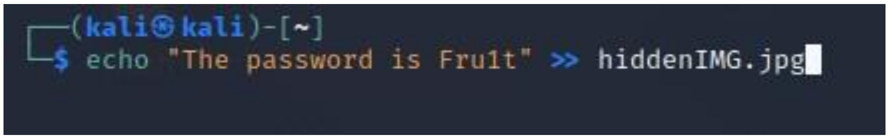


```
┌──(kali㉿kali)-[~/steghide]
└─$ echo "Bananafofana is the secret message" > secret.txt
```

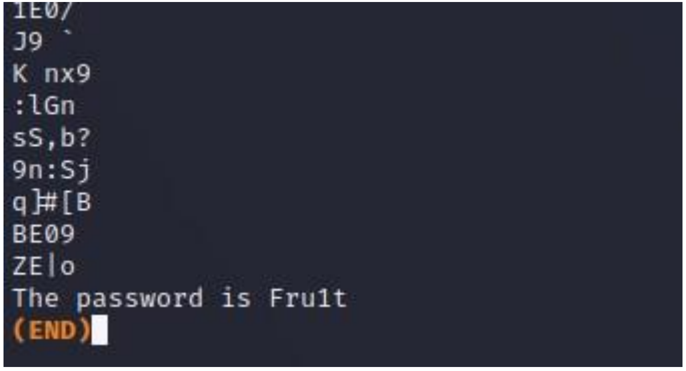


```
┌──(kali㉿kali)-[~/steghide]
└─$ steghide embed -cf hiddenIMG.jpg -ef secret.txt
Enter passphrase:
Re-Enter passphrase:
embedding "secret.txt" in "hiddenIMG.jpg"... done
```

Finally, I confirmed that the password was successfully embedded within **hiddenIMG.jpg**, ensuring that the message could only be extracted by someone who knows the password "Fru1t".



```
┌──(kali㉿kali)-[~]
└─$ echo "The password is Fru1t" >> hiddenIMG.jpg
```



```
1E0/
J9 `
K nx9
:lGn
sS,b?
9n:Sj
q]#[B
BE09
ZE|o
The password is Fru1t
(END)
```