Christopher Mayol

1-A) **dd if=/dev/zero of=my_fat_file bs=1k count=4096**

“dd” command is use to convert and copy a file.

-if=/dev/zero is used to read from a file, in this case we are reading zeroes

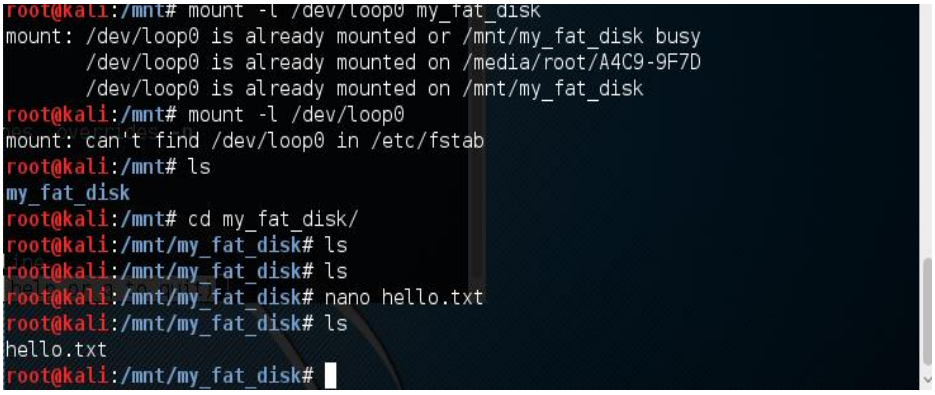
-of=my_fat_file writes to a specified file

-bs= # of bytes to read/write at a time

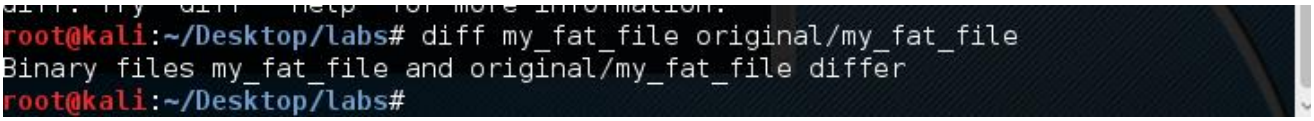
-count= # of blocks

1-B) You can re-use the mount command and it will let you know if the device is already mounted

1-C)



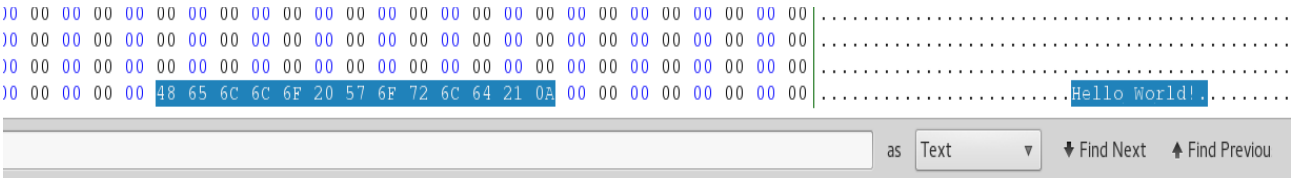
Used nano command to make a “hello.txt” and its contents “Hello World!”



We use the diff command to check if the my_fat_file differ from the original one, which it does.

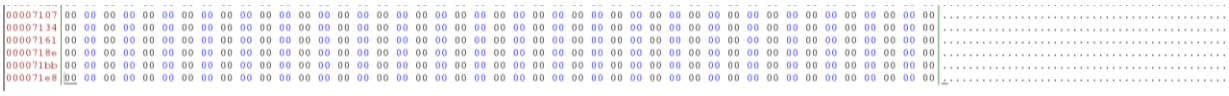
Used bless hexeditor to view the differences for the my_fat_file

my_fat_file:



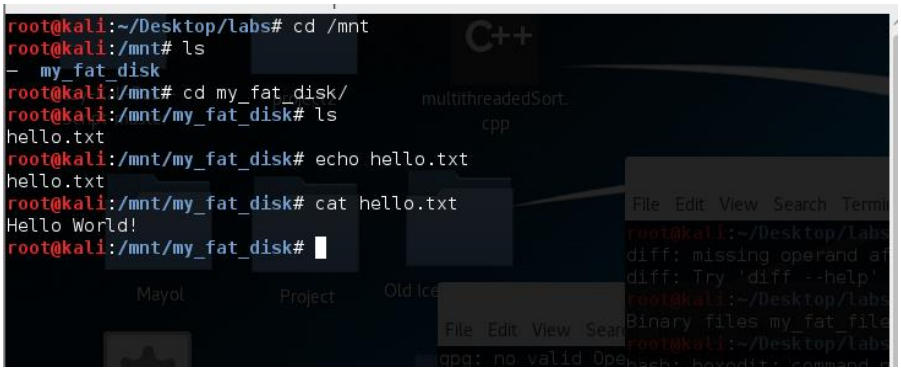
We see the contents of Hello.txt that we created

Backedup my_fat_file:



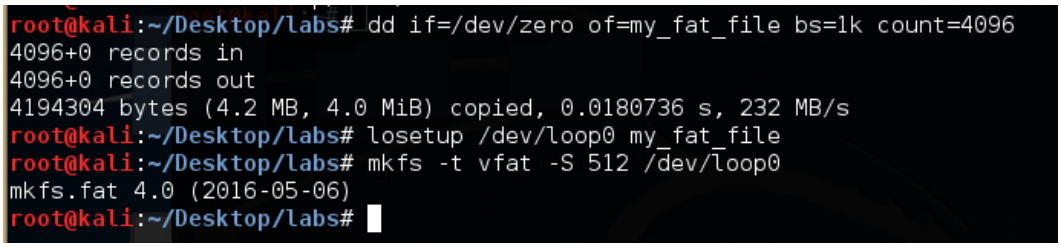
We have no data of Hello.txt

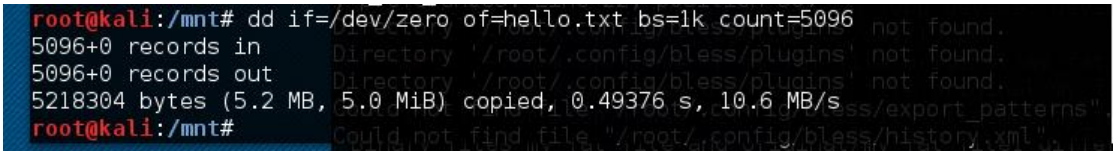
1-D)



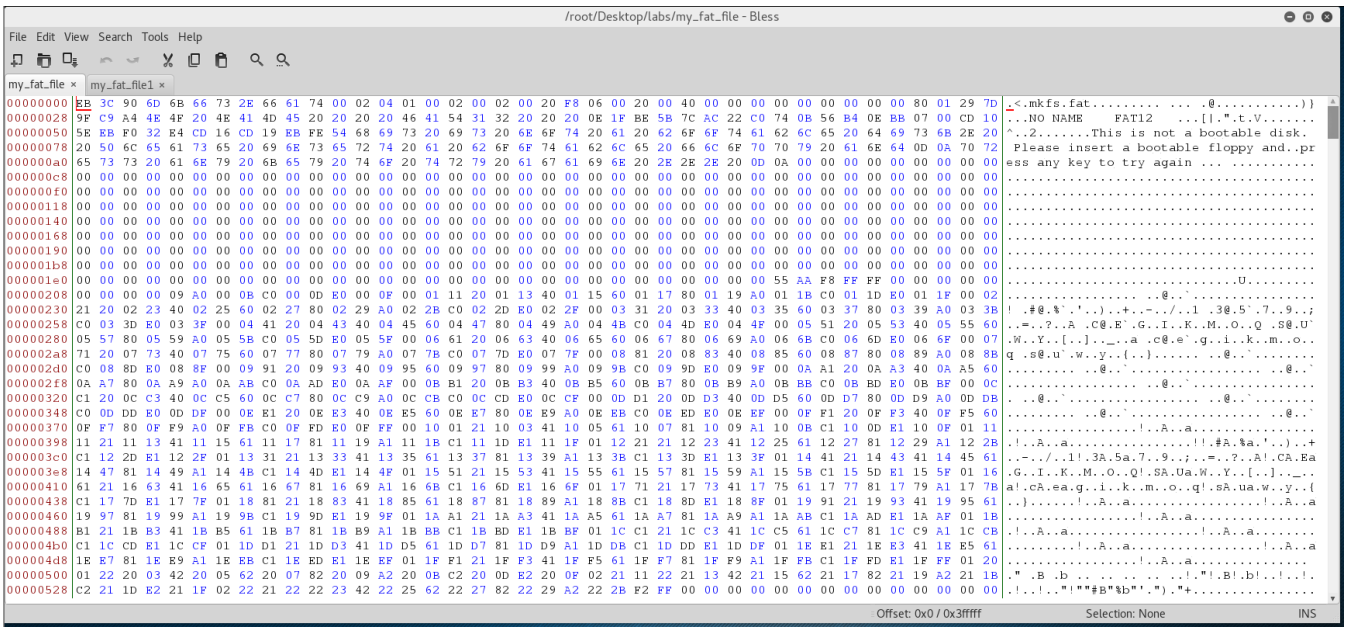
Mounting the file, we see the “hello.txt” and using the cat command to display its contents

1-E) Modify the file by making its size larger than one cluster

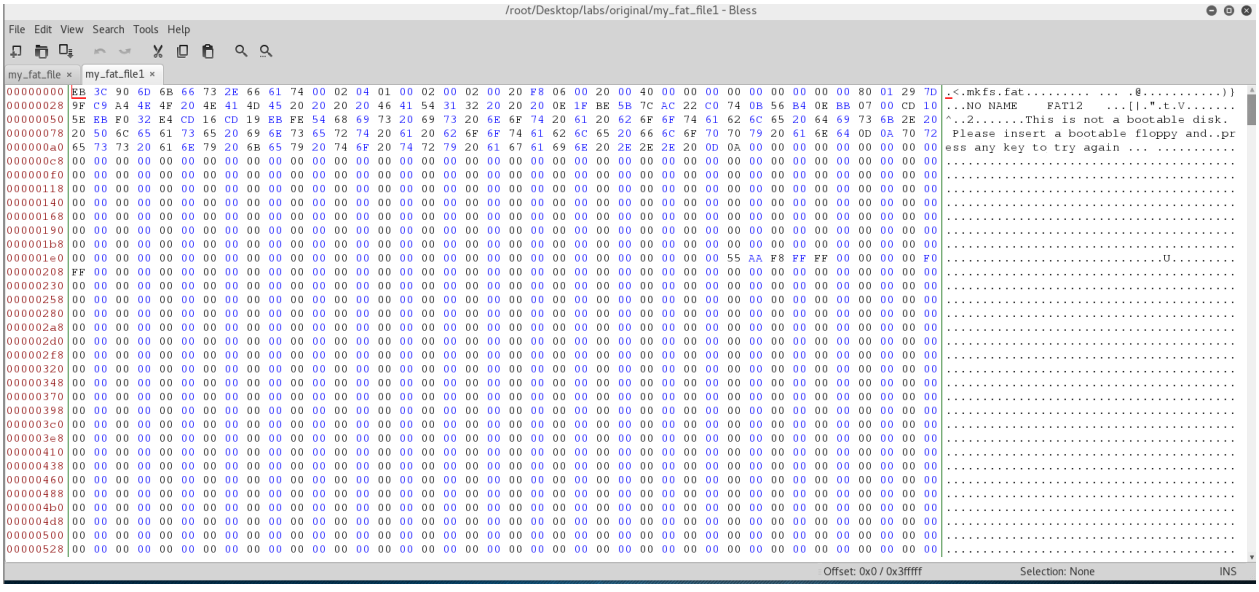




my_fat_file:



Backup my_fat_file:



1-F) ***Delete the file***

```
root@kali:/mnt# umount my_fat_disk
root@kali:/mnt# mount /dev/loop0 my_fat_disk
root@kali:/mnt# cd my_fat_disk/
root@kali:/mnt/my_fat_disk# ls
hello.txt
root@kali:/mnt/my_fat_disk# rm hello.txt
root@kali:/mnt/my_fat_disk# ls
root@kali:/mnt/my_fat_disk#
```

my_fat_file:

```
0011c9cd 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
0011c9e2 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
0011c9f7 00 00 00 00 00 00 00 00 00 48 65 6C 6C 6F 20 57 6F 72 6C 64 21 .........Hello World!
0011ca0c 0A 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
0011ca21 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
0011ca36 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
0011ca4b 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
0011ca60 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
```

Even after file is deleted we can still see its contents

Backup my_fat_file:

```
000071c7 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
000071dc 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
000071f1 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 48 65 6C 6C 6F 20 ...............Hello
00007206 57 6F 72 6C 64 21 0A 00 00 00 00 00 00 00 00 00 00 00 00 00 00 World!..............
0000721b 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
00007230 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ....................
```

2) ntfs

```
oot@kali:~/Desktop/labs# losetup /dev/loop0 my_ntfs_file
osetup: my_ntfs_file: failed to set up loop device: Device or resource busy
oot@kali:~/Desktop/labs#
oot@kali:~/Desktop/labs# losetup /dev/loop5 my_ntfs_file
oot@kali:~/Desktop/labs# mkfs -t ntfs /dev/loop5
dev/loop5 is mounted.
efusing to make a filesystem here!
oot@kali:~/Desktop/labs# mount /dev/loop5 my_ntfs_file
ount is denied because the NTFS volume is already exclusively opened.
he volume may be already mounted, or another software may use it which
ould be identified for example by the help of the 'fuser' command.
oot@kali:~/Desktop/labs#
```