

1. After running the `ls -il` command, we can observe the inode number of each of the two files along with their permissions. In this case both files have read write permissions. It also shows the user that owns the file and when the file was created.

```
[08:40:51] ancoope@cirrus7:~/Desktop/CPSC3220/LinkActivity [6] ls -il
total 0
82187837 -rw----- 1 ancoope cuuser 0 Apr  5 08:38 file1.txt
82187846 -rw----- 1 ancoope cuuser 0 Apr  5 08:38 file2.txt
[08:40:54] ancoope@cirrus7:~/Desktop/CPSC3220/LinkActivity [7] █
```

2. After creating a soft link for file1.txt, we can see that the inode number for the soft link is very close to the inode number for file1.txt. The inode number for file1.txt is 82187837 while the inode number for the softlink is around 10 away at 82187848. The line about permissions for the softlink are also different from the permissions for file1.txt.

```
[08:40:54] ancoope@cirrus7:~/Desktop/CPSC3220/LinkActivity [7] ln -s file1.txt m
y_softlink
[08:43:33] ancoope@cirrus7:~/Desktop/CPSC3220/LinkActivity [8] ls -il
total 0
82187837 -rw----- 1 ancoope cuuser 0 Apr  5 08:38 file1.txt
82187846 -rw----- 1 ancoope cuuser 0 Apr  5 08:38 file2.txt
82187848 lrwxrwxrwx 1 ancoope cuuser 9 Apr  5 08:43 my_softlink -> file1.txt
[08:43:43] ancoope@cirrus7:~/Desktop/CPSC3220/LinkActivity [9] █
```

After file1.txt, the soft link no longer worked properly. This is because the soft link, unlike a hard link, does not copy the contents of the file it is pointing to. Instead, a soft link just contains the path to the file, so when the file is removed, the link no longer works.

3. When a hard link is created for file2.txt, we can see that the hard link's inode number is the same as the inode number for file2.txt.

```
[09:40:23] ancoope@cirrus5:~/Desktop/CPSC3220/LinkActivity [6] ln file2.txt my_h
ardlink
[09:40:38] ancoope@cirrus5:~/Desktop/CPSC3220/LinkActivity [7] ls -il
total 0
82187846 -rw----- 2 ancoope cuuser 0 Apr  5 08:38 file2.txt
82187846 -rw----- 2 ancoope cuuser 0 Apr  5 08:38 my_hardlink
82187848 lrwxrwxrwx 1 ancoope cuuser 9 Apr  5 08:43 my_softlink -> file1.txt
[09:40:54] ancoope@cirrus5:~/Desktop/CPSC3220/LinkActivity [8] █
```

When we delete file2.txt, my_hardlink still works. This is because it has copied the contents of the file file2.txt, so even if the original file is deleted the hard link will still have the contents of the file.