Question 2

ID1206 Operating Systems

Task 1

```
55710485 -rw-r--r-- 1 keno keno 52  6 dec 16.22 file1.txt
```

Task 2

When entering the command provided we get the following inode values for file2.txt.

```
55710485 -rw-r--r-- 2 keno keno 52  6 dec 16.22 file2.txt
```

The contents of file1.txt and file2.txt are the same, we now edit the contents of file2.txt. When examining file1.txt, we see that the contents are the same as in the newly edited file2.txt.

Task 3

When removing file1.txt, we still have file2.txt. We now use trace the execution of the system calls when removing file2.txt. The system call for removing file2.txt is:

```
unlinkat(AT_FDCWD, "file2.txt", 0)      = 0
```

Task 4

The inode value of file3.txt is:

```
55726637 -rw-r--r-- 1 keno keno 0  6 dec 16.35 file3.txt
```

The inode value of file4.txt is:

```
55726638 lrwxrwxrwx 1 keno keno 9  6 dec 16.35 file4.txt -> file3.txt
```

We see that the inodes are unique. When editing file4.txt, the content of file3.txt also updates. Once we delete file3.txt and attempt to edit file4.txt, the process will fail or a new file will be created (if using an editor like VS code). This is due to the link remaining but it points to a nonexistent file.