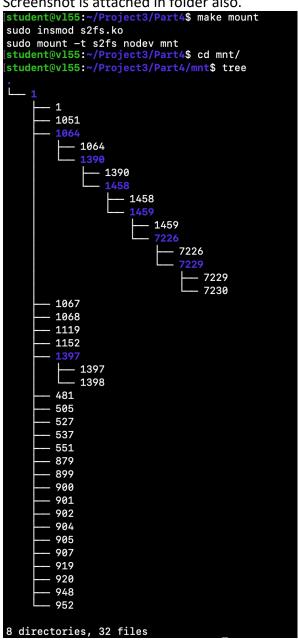
Project 3 – Part 4 Solutions

Part 4.1.1: Create files/directory on mounting File Name – s2fs.c *Line Number* – 15-65

Part 4.1.2: Testing Code

Screenshot is attached in folder also.



Part 4.2.1: Get Task Info File Name - file.h Line Number - 10-35

Part 4.2.2: Modify the inode creation file to store the PID

File Name - file.h Line Number - 137

Part 4.2.3: Modify the file open and read function

File Name - file.h Line Number – 41-84

Part 4.2.4: Test your code

Screenshot for the given commands is given in the folder

```
[student@vl55:~/Project3/Part4$ mkdir mnt
[student@v155:~/Project3/Part4$ sudo insmod s2fs.ko
[student@vl55:~/Project3/Part4$ sudo mount -t s2fs nodev mnt
[student@v155:~/Project3/Part4$ mount|tail
cgroup on /sys/fs/cgroup/cpu,cpuacct type cgroup (rw,nosuid,nodev,noexec,relatime,cpu,
cpuacct)
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime,devices)
cgroup on /sys/fs/cgroup/blkio type cgroup (rw,nosuid,nodev,noexec,relatime,blkio)
mqueue on /dev/mqueue type mqueue (rw,relatime)
debugfs on /sys/kernel/debug type debugfs (rw,relatime)
hugetlbfs on /dev/hugepages type hugetlbfs (rw,relatime,pagesize=2M)
fusectl on /sys/fs/fuse/connections type fusectl (rw,relatime)
lxcfs on /var/lib/lxcfs type fuse.lxcfs (rw,nosuid,nodev,relatime,user_id=0,group_id=0
,allow other)
tmpfs on /run/user/1002 type tmpfs (rw,nosuid,nodev,relatime,size=100856k,mode=700,uid
=1002,gid=1002)
nodev on /home/student/Project3/Part4/mnt type s2fs (rw,relatime)
student@vl55:~/Project3/Part4$ cat mnt/1/1
No. of bytes: 0
[student@vl55:~/Project3/Part4$ sudo umount ./mnt
[student@v155:~/Project3/Part4$ sudo rmmod s2fs.ko
student@v155:~/Project3/Part4$ dmesg | tail
    17.857575] audit: type=1400 audit(1576031802.165:10): apparmor="STATUS" operation=
"profile_load" profile="unconfined" name="/usr/bin/lxc-start" pid=704 comm="apparmor_p
arser"
    17.877611] audit: type=1400 audit(1576031802.185:11): apparmor="STATUS" operation=
"profile_load" profile="unconfined" name="/usr/lib/lxd/lxd-bridge-proxy" pid=718 comm=
"apparmor_parser"
    18.683472] Adding 998396k swap on /dev/sda5. Priority:-2 extents:1 across:998396k
    19.127378] vmxnet3 0000:03:00.0 ens160: intr type 3, mode 0, 3 vectors allocated
    19.130055] vmxnet3 0000:03:00.0 ens160: NIC Link is Up 10000 Mbps
    19.329589] new mount options do not match the existing superblock, will be ignored
 119.059416] s2fs: loading out-of-tree module taints kernel.
[ 119.059575] s2fs: module verification failed: signature and/or required key missing

    tainting kernel

 125.872566] s2fs mounted successfully
[ 212.494122] s2fs mounted successfully
student@v155:~/Project3/Part4$
```