CS – 314 OPERATING SYSTEMS LAB -9

Objective

- Print desired statements whenever a file is created, read, written or deleted.

Solution

- To print the desired statement whenever a file is created, we add the following snippet inside the function “common_open()” in the file “open.c” in the directory “/usr/src/minix/servers/vfs”.

```
if (r == OK) {
exist = FALSE;  /* We just created the file */
struct vmnt *temp = find_vmnt(vp->v_fs_e);
if (strcmp(temp->m_mount_path, "/home") == 0) {
  printf("MINIX 210010050: file created: %llu\n", vp->v_inode_nr);
}
}
```

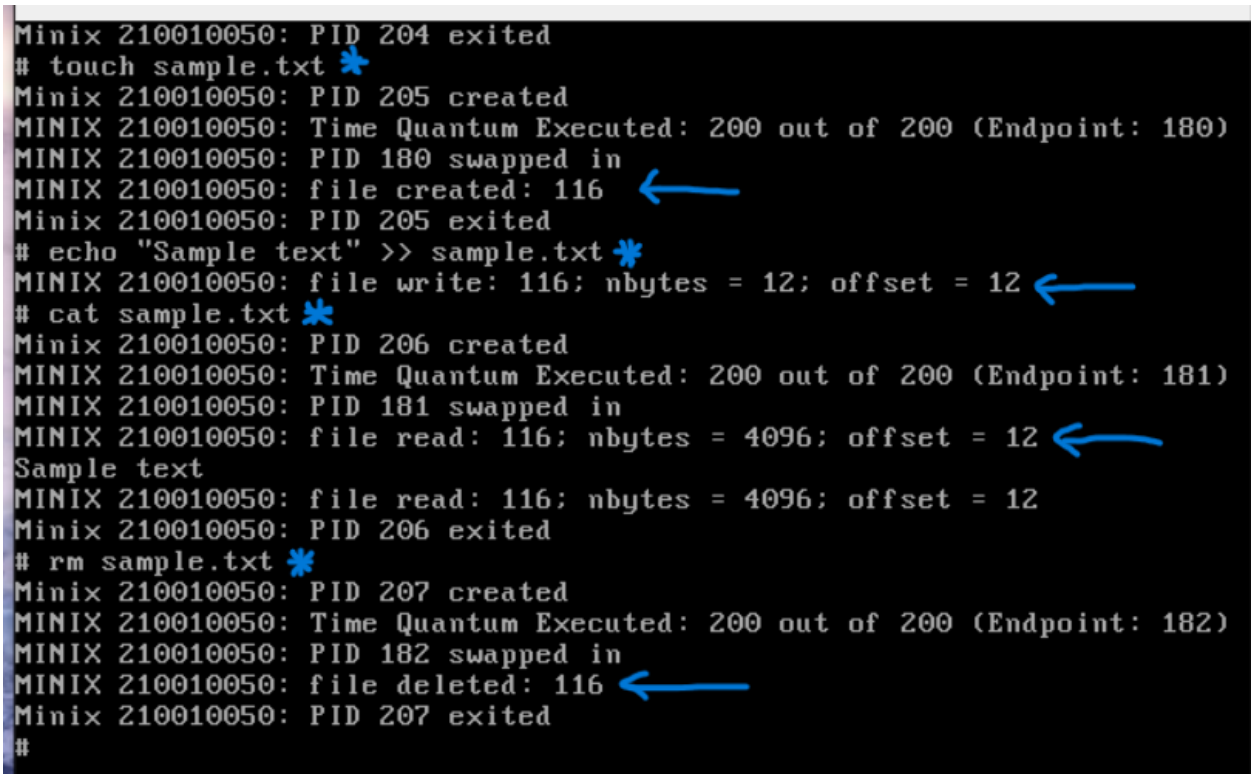
- To print the desired statement whenever a file is read or written, we add the following snippet inside the function “read_write()” in the file “read.c” in the directory “/usr/src/minix/servers/vfs”.

```
struct vmnt *temp = find_vmnt(vp->v_fs_e);
if (strcmp(temp->m_mount_path, "/home") == 0) {
  if (rw_flag == READING) {
      printf("MINIX 210010050: file read: %llu; nbytes = %zu; offset = %llu\n",
      vp->v_inode_nr, size, position);
  }
  else if (rw_flag == WRITING) {
      printf("MINIX 210010050: file write: %llu; nbytes = %zu; offset = %llu\n",
      vp->v_inode_nr, size, position);
  }
}
```

- To print the desired statement whenever a file is deleted, we add the following snippet inside the function “do_unlink()” in the file “link.c” in the directory “/usr/src/minix/servers/vfs”.

```
lookup_init(&stickycheck, resolve.l_path, PATH_RET_SYMLINK, &vmp2, &vp);
stickycheck.l_vmnt_lock = VMNT_READ;
stickycheck.l_vnode_lock = VNODE_READ;
vp = advance(dirp, &stickycheck, fp);
if (strcmp(vmp->m_mount_path, "/home") == 0) {
  printf("MINIX 210010050: file deleted: %llu\n", vp->v_inode_nr);
}
if (vp != NULL) {
  unlock_vnode(vp);
  put_vnode(vp);
}
```

Results:



From the above screenshot, we can see that a statement is being printed whenever a file is created, read, written or deleted.