

## CS-314 OPERATING SYSTEMS LAB-10

(K. S. N Manikanta-210010050, M. Suresh-210010030)

### Results:

1. File Creation: We start by creating the file as an immediate one. When a file grows beyond 32B, then we make it a regular file.

```
Minix 210010050: PID 199 exited
# touch test.txt
Minix 210010050: PID 200 created
MINIX 210010050: Time Quantum Executed: 200 out of 200 (Endpoint: 175)
MINIX 210010050: PID 175 swapped in
MINIX 210010050 210010030: file created: 132
Minix 210010050: PID 200 exited
#
```

2. File Write: You must take care to ensure that if you want to write to the inode structure, then the new file size is still within 32B. When a regular file shrinks to less than 32 bytes, there is no need to come back to immediate mode.

```
Minix 210010050: PID 200 exited
# echo "Sample text" >> test.txt
MINIX 210010050 210010030: Writing to Immediate File.
MINIX 210010050 210010030: file write: 132; nbytes = 12; offset = 12 *
# echo "Hello" >> test.txt
MINIX 210010050 210010030: Writing to Immediate File.
MINIX 210010050 210010030: file write: 132; nbytes = 6; offset = 18 *
# echo "Sample Hello " >>test.txt
MINIX 210010050 210010030: Writing to Immediate File.
MINIX 210010050 210010030: file write: 132; nbytes = 14; offset = 32 *
# echo "Going beyond 32B" >> test.txt
MINIX 210010050 210010030: file write: 132; nbytes = 17; offset = 49 *
#
```

We can observe the difference in the last echo statement.

3. File Read: If it is an immediate file, you can respond with the inode structure contents. If not, you can follow the default behaviour of looking up zones.

```
MINIX 210010050 210010030: file write: 132; nbytes = 17; offset = 49
# cat test.txt
Minix 210010050: PID 201 created
MINIX 210010050: Time Quantum Executed: 200 out of 200 (Endpoint: 176)
MINIX 210010050: PID 176 swapped in
MINIX 210010050 210010030: file read: 132; nbytes = 4096; offset = 49 *
Sample text
Hello
Sample Hello
Going beyond 32B
MINIX 210010050 210010030: file read: 132; nbytes = 4096; offset = 49
Minix 210010050: PID 201 exited
#
```

```
MINIX 210010050: PID 201 exited
# touch test1.txt
Minix 210010050: PID 202 created
MINIX 210010050: Time Quantum Executed: 200 out of 200 (Endpoint: 177)
MINIX 210010050: PID 177 swapped in
MINIX 210010050 210010030: file created: 133
Minix 210010050: PID 202 exited
# echo "Sample text1" >> test1.txt
MINIX 210010050 210010030: Writing to Immediate File.
MINIX 210010050 210010030: file write: 133; nbytes = 13; offset = 13
# cat test1.txt
Minix 210010050: PID 203 created
MINIX 210010050: Time Quantum Executed: 200 out of 200 (Endpoint: 178)
MINIX 210010050: PID 178 swapped in
MINIX 210010050 210010030: Reading from Immediate File. ←
MINIX 210010050 210010030: File Contents of Immediate File:
Sample text1
MINIX 210010050 210010030: EOF - Immediate File
MINIX 210010050 210010030: file read: 133; nbytes = 4096; offset = 0
Minix 210010050: PID 203 exited
#
```

4. File Delete: Deleting immediate files does not require any handling of zones.

```
MINIX 210010050: PID 203 exited
# rm test1.txt
Minix 210010050: PID 204 created
MINIX 210010050: Time Quantum Executed: 200 out of 200 (Endpoint: 179)
MINIX 210010050: PID 179 swapped in
Minix 210010050: PID 204 exited
# rm test.txt
Minix 210010050: PID 205 created
MINIX 210010050: Time Quantum Executed: 200 out of 200 (Endpoint: 180)
MINIX 210010050: PID 180 swapped in
Minix 210010050: PID 205 exited
#
```