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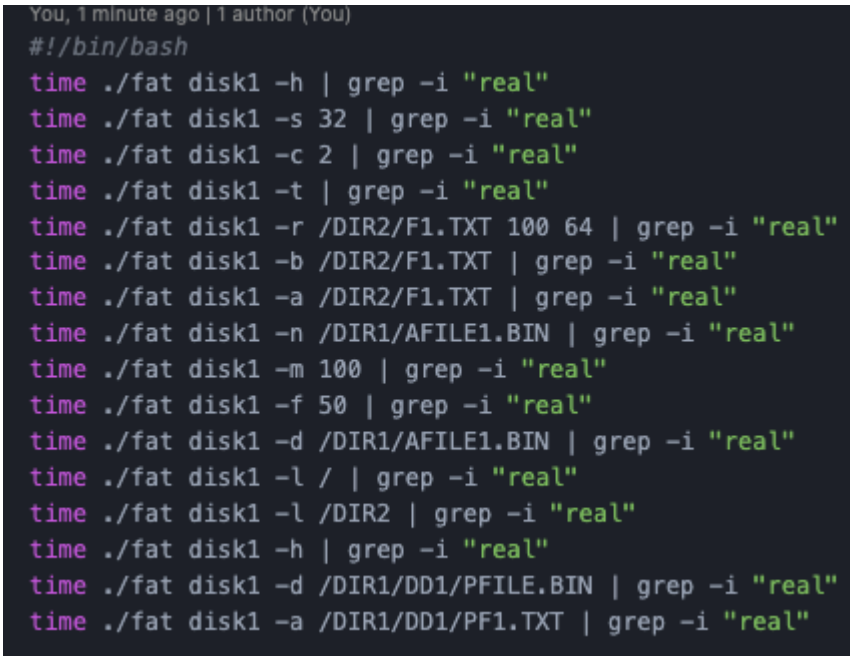
CS342 - Project 4

After building our program, we created a bash script to automatize the experiment process. In the screenshot below you can see the bash script.



```
You, 1 minute ago | 1 author (You)
#!/bin/bash
time ./fat disk1 -h | grep -i "real"
time ./fat disk1 -s 32 | grep -i "real"
time ./fat disk1 -c 2 | grep -i "real"
time ./fat disk1 -t | grep -i "real"
time ./fat disk1 -r /DIR2/F1.TXT 100 64 | grep -i "real"
time ./fat disk1 -b /DIR2/F1.TXT | grep -i "real"
time ./fat disk1 -a /DIR2/F1.TXT | grep -i "real"
time ./fat disk1 -n /DIR1/AFILE1.BIN | grep -i "real"
time ./fat disk1 -m 100 | grep -i "real"
time ./fat disk1 -f 50 | grep -i "real"
time ./fat disk1 -d /DIR1/AFILE1.BIN | grep -i "real"
time ./fat disk1 -l / | grep -i "real"
time ./fat disk1 -l /DIR2 | grep -i "real"
time ./fat disk1 -h | grep -i "real"
time ./fat disk1 -d /DIR1/DD1/PFILE.BIN | grep -i "real"
time ./fat disk1 -a /DIR1/DD1/PF1.TXT | grep -i "real"
```

We saw that the program is working very fast. Because both of us have an SSD that can read GB/s and both of us have a powerful CPU. Accessing disk images that size with the open() syscall is not a problem for such powerful hardware.
Also, we observed that from the given output below, some functions of our program use kernel time more than the user time while some functions use no kernel time at all. Because we wrote those functions to not use any kernel tasks if they do not need it.

OUTPUTS:

./fat disk1 -h
real 0m0.008s
user 0m0.002s
sys 0m0.006s

./fat disk1 -s 32

```
real    0m0.004s
user    0m0.002s
sys     0m0.003s

./fat disk1 -c 2
real    0m0.007s
user    0m0.003s
sys     0m0.004s

/fat disk1 -t
real    0m0.005s
user    0m0.002s
sys     0m0.004s

./fat disk1 -r /DIR2/F1.TXT 100 64
real    0m0.003s
user    0m0.001s
sys     0m0.002s

./fat disk1 -b /DIR2/F1.TXT
real    0m0.005s
user    0m0.002s
sys     0m0.004s

./fat disk1 -a /DIR2/F1.TXT
real    0m0.005s
user    0m0.002s
sys     0m0.004s

./fat disk1 -n /DIR1/AFILE1.BIN
real    0m0.004s
user    0m0.002s
sys     0m0.003s

/fat disk1 -m 100
real    0m0.004s
user    0m0.001s
sys     0m0.003s

./fat disk1 -f 50
real    0m0.004s
user    0m0.002s
sys     0m0.003s
```

./fat disk1 -d /DIR1/AFILE1.BIN
real 0m0.003s
user 0m0.002s
sys 0m0.002s

./fat disk1 -l /
real 0m0.003s
user 0m0.001s
sys 0m0.002s

./fat disk1 -l /DIR2
real 0m0.017s
user 0m0.001s
sys 0m0.002s

./fat disk1 -h
real 0m0.002s
user 0m0.001s
sys 0m0.002s

./fat disk1 -d /DIR1/DD1/PFILE.BIN
real 0m0.005s
user 0m0.005s
sys 0m0.000s

./fat disk1 -a /DIR1/DD1/PF1.TXT
real 0m0.006s
user 0m0.006s
sys 0m0.000s