

OS HW1 Programming exercises

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2.24

Command

```
gcc ./2.24/main.c -o FileCopy
./FileCopy cat.gif copycat.gif
strace ./FileCopy cat.gif copycat.gif
```

The `copycat.gif` file produced in the same directory.

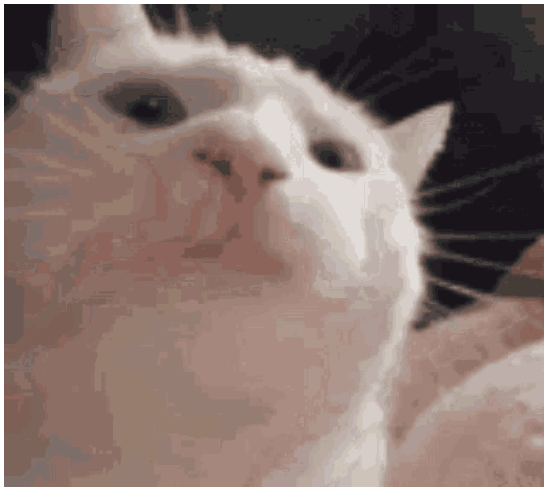


Figure 1: copycat.gif

[illegible]

Figure 2: The last few line result of `strace ./FileCopy cat.gif cpycat.gif` command

3.19

Version 1

Commands

```
gcc ./3.19/v1.c -o time_v1
./time_v1 ls -l
```

Result image

```
catjam@catjam-virtual-machine:~/0Su/hw1$ gcc ./3.19/v1.c -o time_v1
catjam@catjam-virtual-machine:~/0Su/hw1$ ./time_v1 ls -l
total 6452
drwxrwxr-x 2 catjam catjam 4096 ||| 17 14:55 2.24
drwxrwxr-x 2 catjam catjam 4096 ||| 17 15:14 2.P1
drwxrwxr-x 2 catjam catjam 4096 ||| 22 01:03 3.19
drwxrwxr-x 2 catjam catjam 4096 ||| 17 14:55 3.21
drwxrwxr-x 2 catjam catjam 4096 ||| 22 00:46 3.27
drwxrwxr-x 2 catjam catjam 4096 ||| 19 12:32 3.P1
drwxrwxr-x 2 catjam catjam 4096 ||| 21 00:36 3.P2
drwxrwxr-x 2 catjam catjam 4096 ||| 20 16:32 3.P3
drwxrwxr-x 4 catjam catjam 4096 ||| 21 02:03 3.P4
-rw-r--r-- 1 catjam catjam 5294520 ||| 17 16:20 cat.gif
-rw-rw-r-- 1 catjam catjam 1231447 ||| 22 01:07 docs.pdf
-rw-rw-r-- 1 catjam catjam 780 ||| 22 01:08 docs.typ
-rwxrwxr-x 1 catjam catjam 16344 ||| 22 00:47 FileCopy
-rwxrwxr-x 1 catjam catjam 16440 ||| 22 01:09 time_v1
Elapsed time: 6660 us
```

Figure 3: The result of `./time v1 ls -l` command

Version 2

Commands

```
gcc ./3.19/v2.c -o time_v2
./time_v2 ls -l
```

Result image

```
● catjam@catjam-virtual-machine:~/OSu/hw1$ gcc ./3.19/v2.c -o time_v2
● catjam@catjam-virtual-machine:~/OSu/hw1$ ./time_v2 ls -l
total 6472
drwxrwxr-x 2 catjam catjam 4096 == 17 14:55 2.24
drwxrwxr-x 2 catjam catjam 4096 == 17 15:14 2.P1
drwxrwxr-x 2 catjam catjam 4096 == 22 01:03 3.19
drwxrwxr-x 2 catjam catjam 4096 == 17 14:55 3.21
drwxrwxr-x 2 catjam catjam 4096 == 22 00:46 3.27
drwxrwxr-x 2 catjam catjam 4096 == 19 12:32 3.P1
drwxrwxr-x 2 catjam catjam 4096 == 21 00:36 3.P2
drwxrwxr-x 2 catjam catjam 4096 == 20 16:32 3.P3
drwxrwxr-x 2 catjam catjam 4096 == 21 02:03 3.P4
-rw-r--r-- 1 catjam catjam 5294520 == 17 16:20 cat.gif
-rw-rw-r-- 1 catjam catjam 1231447 == 22 01:07 docs.pdf
-rw-rw-r-- 1 catjam catjam 780 == 22 01:08 docs.typ
-rwxrwxr-x 1 catjam catjam 16344 == 22 00:47 FileCopy
-rwxrwxr-x 1 catjam catjam 16440 == 22 01:09 time_v1
-rwxrwxr-x 1 catjam catjam 16432 == 22 01:11 time_v2
Elapsed time: 5728 us
```

Figure 4: The result of `./time_v2 ls -l` command

3.21

Commands

```
gcc ./3.21/main.c -o collatz
./collatz 7
```

Result image

```
● catjam@catjam-virtual-machine:~/OSu/hw1$ gcc ./3.21/main.c -o collatz
● catjam@catjam-virtual-machine:~/OSu/hw1$ ./collatz 7
7 22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1
```

Figure 5: The result of `./collatz 7` command

Figure 6: The result of `strace ./filecopy in.txt out.txt` command