## 2.24 Copy files

## Usage

```
gcc file_copy.c -o File_copy
./File_copy file1 file2
```

#### Screenshot

```
vincent@DESKTOP-GeWHUT9:-/LOSE/cp$ ls
file_copy_2.24.c sample.txt
vincent@DESKTOP-GeWHUT9:-/LOSE/cp$ gcc file_copy_2.24.c -o File_copy
vincent@DESKTOP-GeWHUT9:-/LOSE/cp$ strace ./file_copy sample.txt dest.txt
execve("./file_copy", ["./file_copy", "sample.txt", "dest.txt"], %7ffedS20bH66 /* 30 vars */) = 0
brick(NULL)
execve("./file_copy", ["./file_copy", "sample.txt", "dest.txt"], %7ffedS20bH66 /* 30 vars */) = 0
brick(NULL)
execve("./file_copy", ["./file_copy", "sample.txt", "dest.txt"], %7ffedS20bH66 /* 30 vars */) = 0
brick(NULL)
execve("./file_copy", ["./file_copy", "sample.txt", "dest.txt"], %7ffedS20bH66 /* 30 vars */) = 0
brick(NULL)
execve("./file_copy", ["./file_copy", "sample.txt", "dest.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS20bH66 /* 30 vars */) = 0
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS316680
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS316680
execve("./file_copy", ["./file_copy", "sample.txt"], %7ffedS316680
execve("./file_copy", ["./file_copy", ["./file_copy", "sample.txt"], %7ffedS316680
execve("./file_copy", ["./file_copy", ["./fil
                              come to the world of imagination and creativity! *
this vast realm of possibilities, ideas take flight like birds in the sky. *
ry mord written on these pages carries the potential to spark a new adventure,
paint vivid landscapes in the minds of those who read them. *
           as you traverse through these lines, let your imagination soar. 
Discover new worlds, meet fascinating characters, and embark on epic journeys. 
With every turn of the page, a new story unfolds,
Waiting to captivate your heart and mind.
           so sit back, relax, and let the words weave their magic. 
For in the pages of a book, you'll find endless wonders
and the power to create your own reality. 
//windent@DESKTOP-GOKHUT9:-/LOSE/cp$
```

Figure 1: screenshot

# 3.19 Time command evaluation using pipe and shared memory

## Usage

```
gcc time_pipe.c -o Time_pipe
./Time_pipe ls
gcc time_shm.c -o Time_shm
./Time_shm ls
```

## Screenshot

```
vincent@DESKTOP-GOKHUT9:~/LOSE/time$ gcc time_pipe_3.19.c -o Time_pipe
vincent@DESKTOP-GOKHUT9:~/LOSE/time$ ./Time_pipe ls
Time_pipe time_pipe_3.19.c time_shm_3.19.c
Elapsed time: 0.000730 second
vincent@DESKTOP-GOKHUT9:~/LOSE/time$ gcc time_shm_3.19.c -o Time_shm
vincent@DESKTOP-GOKHUT9:~/LOSE/time$ ./Time_shm ls
Time_pipe Time_shm time_pipe_3.19.c time_shm_3.19.c
Elapsed time: 0.000995 seconds
vincent@DESKTOP-GOKHUT9:~/LOSE/time$ |
```

Figure 2: screenshot

# 3.21 Collatz Conjecture

#### Usage

```
gcc cc.c -o cc
./cc 70
```

## Screenshot

```
vincent@DESKTOP-GOKHUT9:~/LOSE/Collatz_conjecture$ ls
cc_3.21.c
vincent@DESKTOP-GOKHUT9:~/LOSE/Collatz_conjecture$ gcc cc_3.21.c -o cc
vincent@DESKTOP-GOKHUT9:~/LOSE/Collatz_conjecture$ ./cc
Usage: ./cc <number>
vincent@DESKTOP-GOKHUT9:~/LOSE/Collatz_conjecture$ ./cc -1
The number must be positive.
    exiting...
vincent@DESKTOP-GOKHUT9:~/LOSE/Collatz_conjecture$ ./cc 70
70 35 106 53 160 80 40 20 10 5 16 8 4 2 1
vincent@DESKTOP-GOKHUT9:~/LOSE/Collatz_conjecture$
```

Figure 3: screenshot

# 3.27 Copy files using pipe

## Usage

```
gcc file_copy_pipe.c -o File_copy_pipe
./File_copy_pipe file1 file2
```

#### Screenshot

```
mmap(0x7f781abad000, 52816, PROT_READ[PROT_WRITE, MAP_PRIVATE | MAP_FIXED| MAP_DENYMRITE, 3, 0x15d000) = 0x7f781aba4000 close(3) = 0 mmap(NULL, 12288, PROT_READ[PROT_WRITE, MAP_PRIVATE | MAP_FIXED| MAP_DENYMRUTE, 3, 0x215000) = 0x7f781abad000 = 0 map(NULL, 12288, PROT_READ[PROT_WRITE, MAP_PRIVATE | MAP_PRIVAT
      vincent@DESKTOP-GORKHUT9:~/LOSE/cp_with_pipe$ cat dest.txt
This is a sample text file for testing purposes.
It contains some text that will be copied to another file.
      Welcome to the world of imagination and creativity! *
In this vast realm of possibilities, ideas take flight like birds in the sky. *
Every word written on these pages carries the potential to spark a new adventure,
to paint vivid landscapes in the minds of those who read them. *
    As you traverse through these lines, let your imagination soar. 

Discover new worlds, meet fascinating characters, and embark on epic journeys. 

With every turn of the page, a new story unfolds, 
waiting to captivate your heart and mind.
      So sit back, relax, and let the words weave their magic. *
For in the pages of a book, you'll find endless wonders
and the power to create your own reality. *
vincent@DESKTOP-G004UT9:~/LOSE/cp_with_pipo$ |
```

Figure 4: screenshot