Michael Xavier Canonizado BSCS 3A - Operating Systems Documentation

**Machine Exercise 1** 

## Exercise 1 V1:

```
-----File-Copier-Program-V1------
Enter source file name: file1.txt
Enter destination file name: file2.txt
Successfully copied data
```

```
michaelcanonizado@LAPTOP-USIQ9ECR:/mnt/c/Michael Root/Code/Repositories/bicol-university-activities/CS114_operat
ing-systems/machine-exercise-1$ strace ./exercise-1-v1
execve("./exercise-1-v1", ["./exercise-1-v1"], 0x7ffc99dd4700 /* 24 vars */) = 0
brk(NULL) = 0x55f4378c7000
mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7fe572fa6000
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=24607, ...}) = 0
mmap(NULL, 24607, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7fe572f9f000
close(3) = 0
close(3)
5000
mmap(0x7fe572f3d000, 323584, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1b0000) = 0x7fe572f3d000
mmap(0x7fe572f8c000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1fe000) = 0x7fe572f8
mmap(0x7fe572f92000, 52624, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7fe572f92000
mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fe572d8a000
arch_prctl(ARCH_SET_FS, 0x7fe572d8a740) = 0
set_tid_address(0x7fe572d8aa10) = 656
set_robust_list(0x7f, 572) = 656
set_robust_list(0x7fe572d8aa20, 24) = 0
rseq(0x7fe572d8b060, 0x20, 0, 0x53053053) = 0
mprotect(0x7fe572f8c000, 16384, PROT_READ) = 0
mprotect(0x7fe372fdc000, 10304, FROT_READ) = 0
mprotect(0x7fe572fde000, 8192, PROT_READ) = 0
prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024, rlim_max=RLIM64_INFINITY}) = 0
munmap(0x7fe572f9f000, 24607) = 0
write(1, "\n-
write(1, "\n-----File-Copier-Progr"..., 51
              -----File-Copier-Program-V1------) = 51
write(1, "\n-----
                                                          ----"..., 51
write(1, "\nEnter source file name: ", 25
Enter source file name: ) = 25
read(0, file1.txt
```

ing-systems/machine-exercise-1\$

ing-systems/machine-exercise-1\$ |

```
-File-Copier-Program
 Enter source file name: file1.txt
  Enter destination file name: file2.txt
  Successfully copied from 'file1.txt' to 'file2.txt'
  michaelcanonizado@LAPTOP-USIQ9ECR:/mnt/c/Michael Root/Code/Repositories/bicol-university-activities/CS114_operat
 ing-systems/machine-exercise-1$ strace ./exercise-1-v2
execve("./exercise-1-v2", ["./exercise-1-v2"], 0x7ffc33d0e850 /* 24 vars */) = 0
brk(NULL) = 0x5626cc6a4000
 mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7fbb7daf9000
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=24607, ...}) = 0
mmap(NULL, 24607, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7fbb7daf2000
close(3) = 0
 mmap(0x7fbb7da90000, 323584, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1b0000) = 0x7fbb7da90000 mmap(0x7fbb7dadf000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x1fe000) = 0x7fbb7dad
mmap(0x7fbb7dae5000, 52624, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7fbb7dae5000
                                                           MAP_PRIVATE | MAP_ANONYMOUS, -1, 0) = 0x7fbb7d8dd000
 write(1, "\n", 1
                                    = 1
                                                        ----"..., 48---
 write(1,
 ) = 48
                                ----File-Copier-Progra"..., 48------File-Copier-Program-
 write(1,
                                          ----- 48-----
 ) = 48
 write(1,
                               ----File-Copier-Progra"..., 48------File-Copier-Program-
 ) = 48
 write(1,
                                                     -----"..., 48-----
fstat(0, {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}) = 0
write(1, "Enter source file name: ", 24Enter source file name: ) = 24
read(0, file1.txt
"file1.txt\n", 1024) = 10
openat(AT_FDCWD, "file1.txt", O_RDONLY) = 3
write(1, "Enter destination file name: ", 29Enter destination file name: ) = 29
read(0, file2.txt
"file2.txt\n", 1024) = 10
openat(AT_FDCWD, "file2.txt", O_WRONLY|O_CREAT|O_TRUNC, 0666) = 4
fstat(3, {st_mode=S_IFREG|0777, st_size=11, ...}) = 0
read(3, "Hello World", 4096) = 11
fstat(4, {st_mode=S_IFREG|0777, st_size=0, ...}) = 0
read(3, "", 4096) = 0
write(1, "Successfully copied from 'file1."..., 53Successfully copied from 'file
 ) = 48
 read(3, "", 4096) = 0
write(1, "Successfully copied from 'file1."..., 53Successfully copied from 'file1.txt' to 'file2.txt'.
 close(3)
write(4, "Hello World", 11)
close(4)
                                                           = 11
 lseek(0, -1, S
exit_group(0)
                   SEEK_CUR)
                                                            = -1 ESPIPE (Illegal seek)
  +++ exited with 0 +++
 michaelcanonizado@LAPTOP-USIQ9ECR:/mnt/c/Michael Root/Code/Repositories/bicol-university-activities/CS114_operat
```

## Machine Exercise 2 A:

```
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
[CHILD] : PID 79040, PPID 79039
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
[PARENT] : PID 79039, PPID 78319
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
[CHILD] : PID 79040, PPID 79039
[PARENT] : PID 79039, PPID 78319
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
[PARENT] : PID 79039, PPID 78319
[CHILD] : PID 79040, PPID 79039
```

## Machine Exercise 2 B:

```
[PARENT]: PID 79122, waits for child with PID 79123
[CHILD]: PID 79123, starts counting:
[CHILD] : i = 1
[CHILD] : i = 2
[CHILD] : i = 3
[CHILD] : i = 4
[CHILD] : i = 5
[CHILD] : i = 6
[CHILD] : i = 7
[CHILD] : i = 8
[CHILD] : i = 9
[CHILD] : i = 10
[PARENT]: Child with PID 79123 finished and unloaded
```

## Machine Exercise 3:

```
Enter a string: Hello World!

PARENT(79272): Sending [ Hello World! ] to CHILD(79273)

CHILD(79273): Recieved message

CHILD(79273): Reversing the case of the string

CHILD(79273): Sending string to PARENT(79272)

PARENT(79272): Received [ hELLO wORLD! ] from CHILD(79273)
```