

Sleep.c:

```
hafsalinus@HafsaASUS:~/xv6-labs-2025$ ./grade-lab-util sleep
make: 'kernel/kernel' is up to date.
== Test sleep, no arguments == sleep, no arguments: OK (1.7s)
== Test sleep, returns == sleep, returns: OK (1.0s)
== Test sleep, makes syscall == sleep, makes syscall: OK (1.0s)

hafsalinus@HafsaASUS:~/xv6-labs-2025/user$ nano sleep.c
hafsalinus@HafsaASUS:~/xv6-labs-2025/user$ cd ..
hafsalinus@HafsaASUS:~/xv6-labs-2025$ make qemu
mv -f fs.img fs.img.bk
mkfs/mkfs fs.img README user/findtest.sh user/sixfive.txt user/_cat user/_ec
ho user/_forktest user/_sleep user/_sixfive user/_find user/_grep user/_init
user/_kill user/_ln user/_ls user/_mkdir user/_rm user/_sh user/_stressfs u
ser/_usertests user/_grind user/_wc user/_zombie user/_logstress user/_forph
an user/_dorphan user/_memdump
nmeta 47 (boot, super, log blocks 31, inode blocks 13, bitmap blocks 1) bloc
ks 1953 total 2000
balloc: first 1061 blocks have been allocated
balloc: write bitmap block at sector 46
qemu-system-riscv64 -machine virt -bios none -kernel kernel/kernel -m 128M -
smp 3 -nographic -global virtio-mmio.force-legacy=false -drive file=fs.img,i
f=none,format=raw,id=x0 -device virtio-blk-device,drive=x0,bus=virtio-mmio-b
us.0

xv6 kernel is booting

hart 2 starting
hart 1 starting
init: starting sh
$ sleep 30
$ |
```

Sixfive.c:

```
xv6 kernel is booting

hart 1 starting
hart 2 starting
init: starting sh
$ sixfive sixfive.txt
5
100
18
6
$ QEMU: Terminated
hafsalinus@HafsaASUS:~/xv6-labs-2025$ ./grade-lab-util sixfive
make: 'kernel/kernel' is up to date.
== Test sixfive_test == sixfive_test: OK (2.2s)
    (Old xv6.out.sixfive_test failure log removed)
== Test sixfive_readme == sixfive_readme: OK (1.4s)
    (Old xv6.out.sixfive_readme failure log removed)
== Test sixfive_all == sixfive_all: OK (1.1s)
hafsalinus@HafsaASUS:~/xv6-labs-2025$ |
```

Find.c:

```
QEMU output saved to xv6.out.memdump_examples
hafsalinus@HafsaASUS:~/xv6-labs-2025$ ./grade-lab-util find
make: 'kernel/kernel' is up to date.
== Test find, in current directory == find, in current directory: OK (1.9s)
== Test find, in sub-directory == find, in sub-directory: OK (0.8s)
== Test find, recursive == find, recursive: OK (1.3s)
== Test exec, recursive find == exec, recursive find: OK (1.1s)
```

```
hafsalinus@HafsaASUS:~/xv6-labs-2025/user$ cd ..
hafsalinus@HafsaASUS:~/xv6-labs-2025$ make qemu
mv -f fs.img fs.img.bk
mkfs/mkfs fs.img README user/findtest.sh user/sixfive.txt user/_cat user/_ec
ho user/_forktest user/_sleep user/_sixfive user/_find user/_grep user/_init
  user/_kill user/_ln user/_ls user/_mkdir user/_rm user/_sh user/_stressfs u
ser/_usertests user/_grind user/_wc user/_zombie user/_logstress user/_forph
an user/_dorphan  user/_memdump
nmeta 47 (boot, super, log blocks 31, inode blocks 13, bitmap blocks 1) bloc
ks 1953 total 2000
balloc: first 1062 blocks have been allocated
balloc: write bitmap block at sector 46
qemu-system-riscv64 -machine virt -bios none -kernel kernel/kernel -m 128M -
smp 3 -nographic -global virtio-mmio.force-legacy=false -drive file=fs.img,i
f=none,format=raw,id=x0 -device virtio-blk-device,drive=x0,bus=virtio-mmio-b
us.0

xv6 kernel is booting

hart 1 starting
hart 2 starting
init: starting sh
$ make qemu
exec make failed
$ echo > b
$ mkdir a
$ echo > a/b
$ mkdir a/aa
$ echo > a/aa/b
$ find . b
./b
./a/b
./a/aa/b
```

Exec.c:

```
hafsalinus@HafsaASUS:~/xv6-labs-2025$ ./grade-lab-util exec
make: 'kernel/kernel' is up to date.
== Test exec == exec: OK (1.3s)
== Test exec, multiple args == exec, multiple args: OK (0.7s)
== Test exec, recursive find == exec, recursive find: OK (1.2s)
```

```
hafsalinus@HafsaASUS:~/xv6-labs-2025/user$ cd ..
hafsalinus@HafsaASUS:~/xv6-labs-2025$ make qemu
mv -f fs.img fs.img.bk
mkfs/mkfs fs.img README user/findtest.sh user/sixfive.txt user/_cat user/_echo user/_forktest user/_sleep user/_sixfive user/_find user/_grep user/_init user/_kill user/_ln user/_ls user/_mkdir user/_rm user/_sh user/_stressfs user/_usertests user/_grind user/_wc user/_zombie user/_logstress user/_forphan user/_dorphan user/_memdump
nmeta 47 (boot, super, log blocks 31, inode blocks 13, bitmap blocks 1) blocks 1953 total 2000
ballocc: first 1062 blocks have been allocated
ballocc: write bitmap block at sector 46
qemu-system-riscv64 -machine virt -bios none -kernel kernel/kernel -m 128M -smp 3 -nographic -global virtio-mmio.force-legacy=false -drive file=fs.img,if=none,format=raw,id=x0 -device virtio-blk-device,drive=x0,bus=virtio-mmio-bus.0

xv6 kernel is booting

hart 2 starting
hart 1 starting
init: starting sh
$ sh < findtest.sh
$ $ $ $ $ $ hello
hello
hello
$ $
```

Memdump.c:

```
hafsalinus@HafsaASUS:~/xv6-labs-2025$ ./grade-lab-util memdump
make: 'kernel/kernel' is up to date.
== Test memdump, examples == memdump, examples: OK (1.8s)
    (Old xv6.out.memdump_examples failure log removed)
== Test memdump, format ii, S, p == memdump, format ii, S, p: OK (1.1s)
hafsalinus@HafsaASUS:~/xv6-labs-2025$
```

```
hafsalinus@HafsaASUS:~/xv6-labs-2025$ make qemu
mv -f fs.img fs.img.bk
mkfs/mkfs fs.img README user/findtest.sh user/sixfive.txt user/_cat user/_ec
ho user/_forktest user/_sleep user/_sixfive user/_find user/_grep user/_init
user/_kill user/_ln user/_ls user/_mkdir user/_rm user/_sh user/_stressfs u
ser/_usertests user/_grind user/_wc user/_zombie user/_logstress user/_forph
an user/_dorphan user/_memdump
nmeta 47 (boot, super, log blocks 31, inode blocks 13, bitmap blocks 1) bloc
ks 1953 total 2000
balloc: first 1062 blocks have been allocated
balloc: write bitmap block at sector 46
qemu-system-riscv64 -machine virt -bios none -kernel kernel/kernel -m 128M -
smp 3 -nographic -global virtio-mmio.force-legacy=false -drive file=fs.img,i
f=none,format=raw,id=x0 -device virtio-blk-device,drive=x0,bus=virtio-mmio-b
us.0
```

xv6 kernel is booting

```
hart 2 starting
hart 1 starting
init: starting sh
$ memdump
Example 1:
61810
2025
Example 2:
a string
Example 3:
another
Example 4:
B88
1819438967
100
z
xyzzzy
Example 5:
hello
w
o
r
l
d
$ |
```