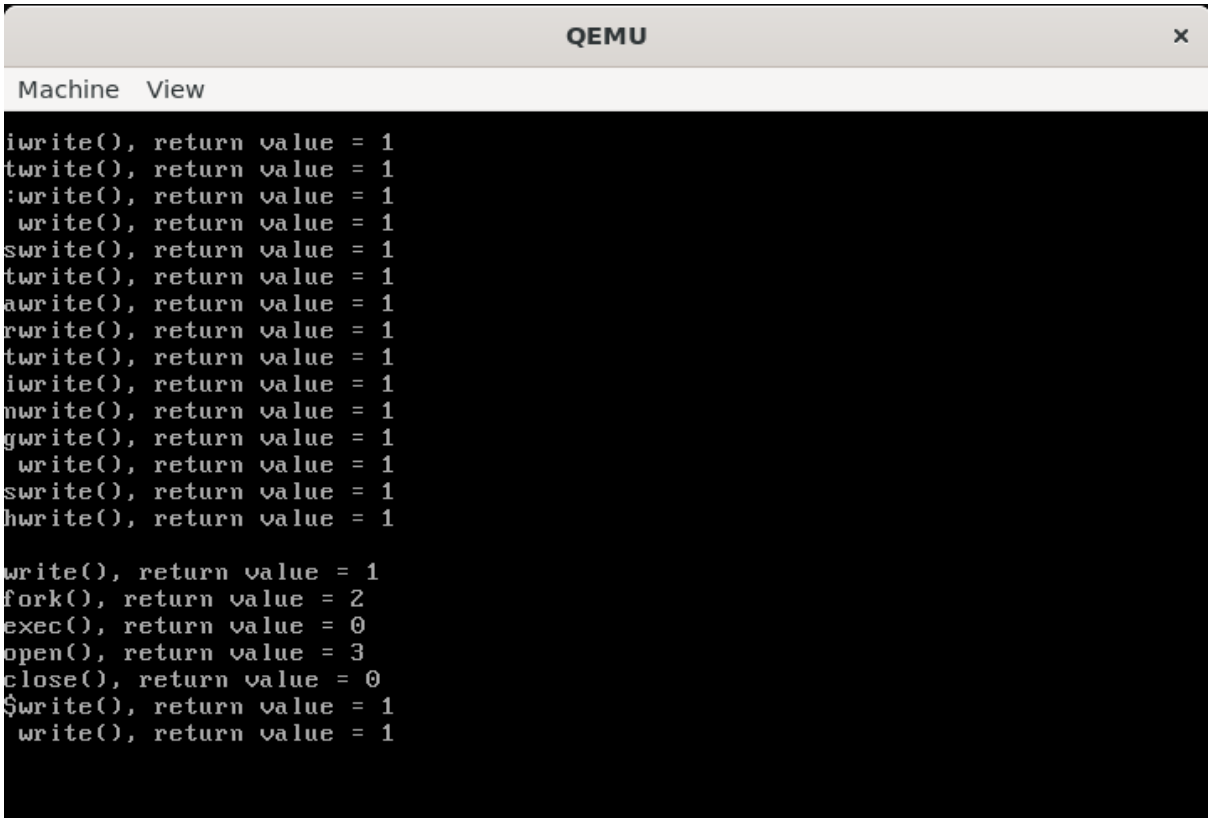
Assignment – 5

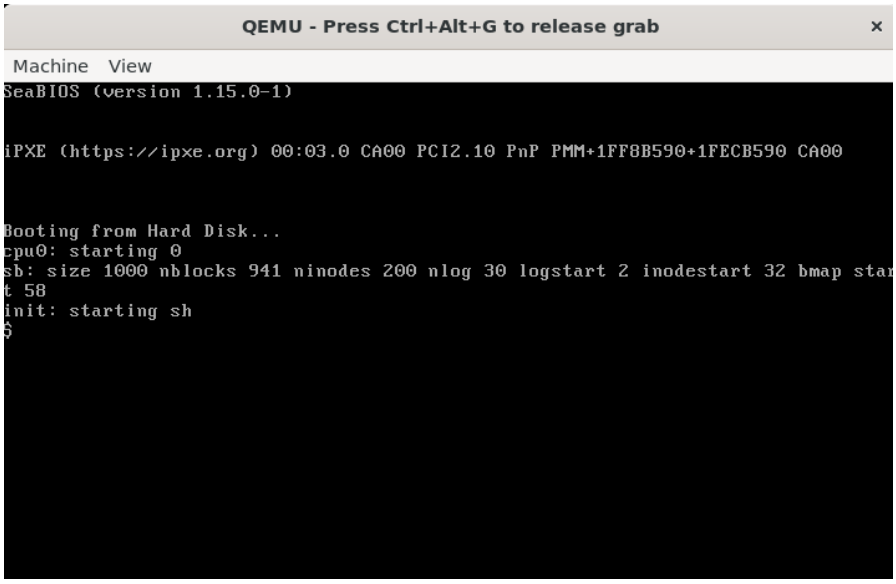
1) Print out a line for each system call invocation

Ans- Output



This is the output upon running the “make qemu” command in ubuntu.

This is basically printing –



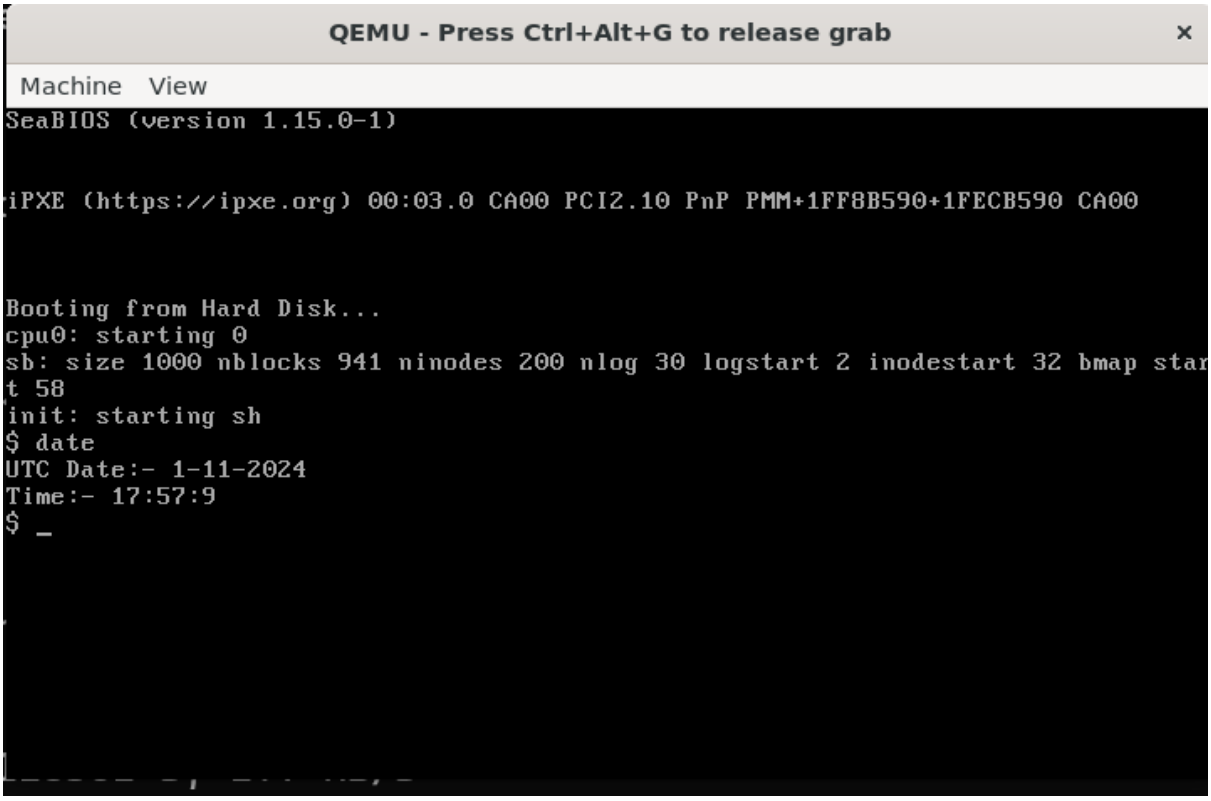
But with the required system call each time it is being called.

- **Code**

To only changes in code are in the syscall.c file. An additional array **syscall_name[22]** of strings is made which maps the numbers of system calls to its actual names. And an extra line –
cprintf("%s(), return value = %d\n", syscall_name[num], curproc->tf->eax);
So that it prints out the name and return value of each system call

2) Add a system call to output UTC date

Ans- Output



Here we can see that calling the “date” command gives out the date.

- **Code**

  The required files to be changed in this one are:

  - syscall.h – defining the number for sys_date
  - syscall.c – adding sys_date in sys_calls[] array
  - sysproc.c – adding the definition of sys_date() along with
    extern void cmostime()
  - Makefile – adding “_date\” in UPROGS
  - user.h – adding the existence of sys_date function
  - usys.S – adding “SYSCALL(date)”
  - Creating a “date.c” file which outputs the date and time as mentioned in assignment pdf.