1) This nsh shell is meant to work on xv6 OS only, however the x86 xv6 is deprecated. So I used the RISC-V one, which is a bit tedious to set up, but is nevertheless easy. This is where you find the RISC-V version: https://github.com/mit-pdos/xv6-riscv/

You can `git clone` it into any location.

2) First install the RISC-V GCC toolchain (from this link): https://github.com/stnolting/riscv-gcc-prebuilt/releases

2) Also install QEMU RISC-V emulator.

using command `sudo apt install qemu-system-riscv64`

```
        user/usys.S \
user/_cat user/_echo user/_forktest user/_grep user/_init user/_kill user/_ln user/_ls user/_mkdir user/_rm user/_sh user/_stressfs user/_usertests user/_grind user/_wc
[sandstorm@Victus16 xv6-riscv]$ sudo apt install qemu-system-riscv64
[sudo] password for sandstorm:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'qemu-system-misc' instead of 'qemu-system-riscv64'
The following packages were automatically installed and are no longer required:
  iputils-arping ncurses-term openssh-sftp-server ssh-import-id
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  samba vde2
The following NEW packages will be installed:
  qemu-system-misc
0 upgraded, 1 newly installed, 0 to remove and 48 not upgraded.
Need to get 41.0 MB of archives.
After this operation, 185 MB of additional disk space will be used.
Ign:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 qemu-system-misc amd64 1:6.2+dfsg-2ubuntu6.6
Ign:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 qemu-system-misc amd64 1:6.2+dfsg-2ubuntu6.6
Ign:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 qemu-system-misc amd64 1:6.2+dfsg-2ubuntu6.6
Ign:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 qemu-system-misc amd64 1:6.2+dfsg-2ubuntu6.6
Get:1 http://security.ubuntu.com/ubuntu jammy-updates/main amd64 qemu-system-misc amd64 1:6.2+dfsg-2ubuntu6.6 [41.0 MB]
18% [1 qemu-system-misc 9,193 kB/41.0 MB 22%]
```

Now you have all the required pre-requisites.

3) Paste the nsh.c and Makefile (or alternatively just clone this repo if you're fine with working in an older xv6 version).

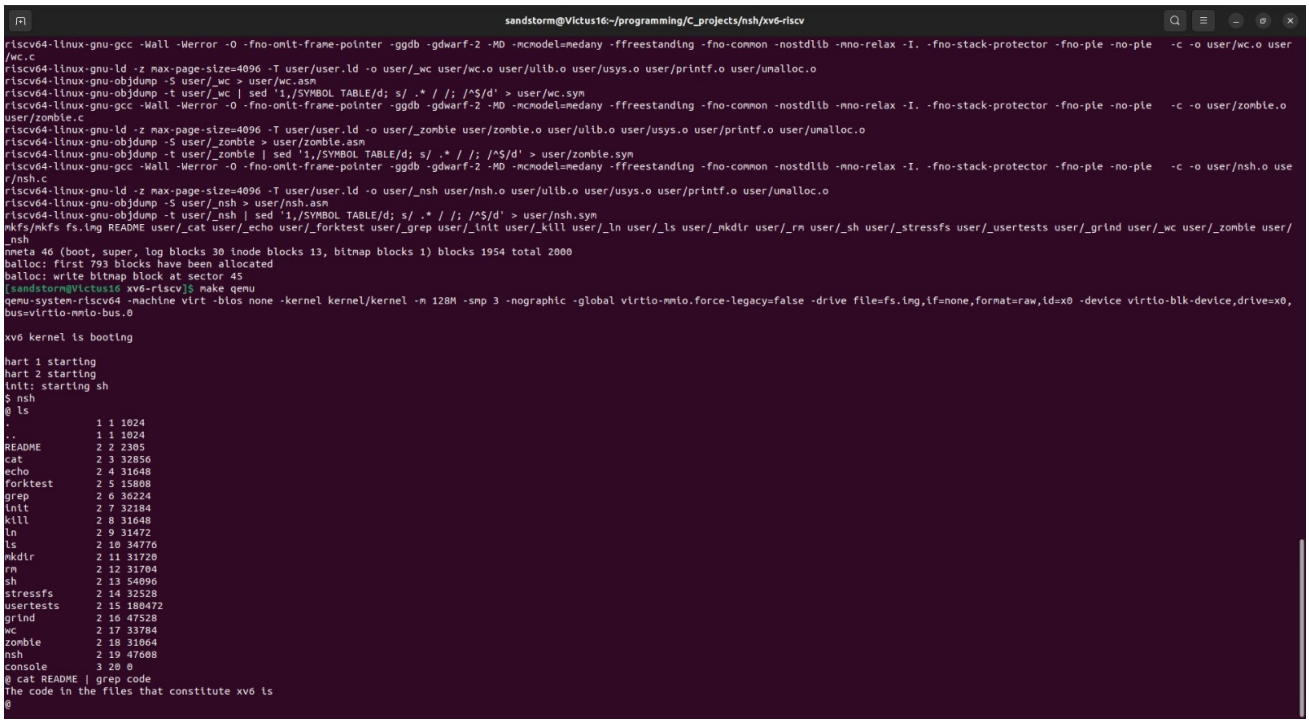
4) Go inside the folder and open the terminal in the location where Makefile is located.

5) Comment out the “$K/console.o” first and run make.

6) Run `make fs.img`

7) Run `make qemu`
8) Uncomment out the aforementioned line and rerun the three commands.
9) After that you should be running the QEMU emulator, running the version of RISC-V version of xv6.

(The output should be something similar to)



You can see the shell works just fine :)