

## OS Assignment2 Part1 Write-up

For 1.1

Three functions countA, countB, countC were written to count from 1 to  $2^{32}$ . Time was calculated for the counting to complete within each function using `get_clocktime()` and `timespec` struct.

Three threads were created one after the other with their policies set as `SCHED_OTHER`, `SCHED_RR`, `SCHED_FIFO`. Now, the priorities were changed each time before noting down the time taken for each thread. For the `SCHED_OTHER`, priority was kept as 0 as that is the only allowed one. For the other two, it was kept between 1-99 and histograms were plotted.

The threads were joined at the end so that the scheduling is done properly when they are running at the same time.

For 1.2

Three processes were created using `fork()`. `execl()` and `waitpid()` were used and time found using `get_clocktime()`.

Three bash scripts were made having commands :

```
git clone https://github.com/SidG2003/os-repo.git
cd os-repo
cp .config /home/user1/kernelbuild/linux-5.19.8 (full path of kernel)
cd ..
make menuconfig /->esc then escape/
make -j2
make modules_install
cp -v arch/x86_64/boot/bzImage /boot/vmlinuz-linux5198
mkinitcpio -k 5.19.8 -g /boot/initramfs-linux5198.img
cp System.map /boot/System.map-linux5198
cp /boot/System.map-linux5198 System.map
grub-mkconfig -o /boot/grub/grub.cfg
update-grub
reboot
```