1. Names of the students: Priyanshu Jain, Sayali Patil, Shadi Davari
2. Output:
pi@raspberrypi_Sayali_Patil:~/userspace_programs $ time ./workload 2

real 0m3.343s
user 0m3.340s
sys 0m0.000s

3. Three processes that interefered with the execution of our program on the CPU core:
1. rcu_preemt
2. trace-cmd
3. chromium-browse

We know that these processes interrupted with our process because the logs of these processes were found between the two timestamps recorded for our process also the spikes of color associated with the interrupting processes were present on the process scheduling line for our process on the specified cpu core.

4.
i. The largest number for which sched_setscheduler() succeeds when run as root: 99
ii. The largest number for which sched_setscheduler() succeeds when run not as root: 95

5. No other process preempted our process.

6.
i. Number of sched_switch events recorded on that CPU core (CPU 2) that our program used = 11
ii. Number of sched_switch events recorded on CPU core 0 = 237
iii. Number of sched_switch events recorded on CPU core 1 = 62
iv. Number of sched_switch events recorded on CPU core 3 = 0

7.
i. Range of real time priorities being used: 50-99
ii. Two processes with real time priorities: irq/92-mmc1 and migration
iii. Iterrupt requests need to be processed with real time priorities to decrese the latency as interrupts are operating system functions that provide multi-process multi-tasking and iterrupts prompt the operating system to stop work on one process and start on other and this needs to be processed with real time priorities.

As migration calls are also used for CPU scheduling between all the running processes, they need to be run with real time priorities.

8.
i. Number of sched_switch events recorded on CPU core that our program used = 7
ii. Our program was never preempted

9. Length of round robin slice = Measurement of Marker B - Measurement of Marker A
= 16767.346994 - 16763.291764
= 4.05523