CS 314: Operating Systems Laboratory
Assignment 3: Part II

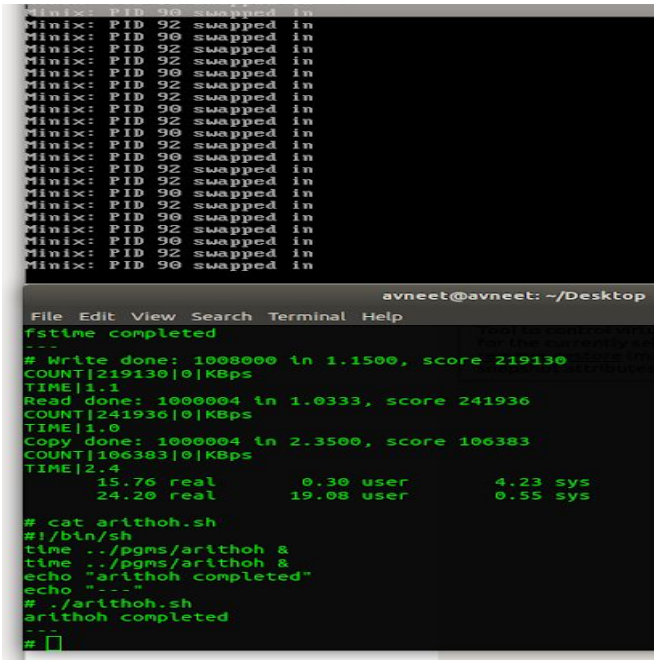
Unnati Athwani (170010006)
Avneet Sehgal (170010029)

Task:
Submit a study of the nature of the benchmarks in the UnixBench suite by analyzing the schedule orders.

Observations:
The 'time' command gives us the total amount of time taken by the process to terminate (depicted by 'real' data), time the process used the CPU ('user' data) and the time the process used I/O devices ('sys' data). Analyzing this data for all the benchmark programs, we observe that 'arithoh' was a completely CPU intensive task, having statistics 17.68, 17.68 and 0.00 for real, user and sys respectively. The other processes used both CPU and I/O for some amount of time.
Next, we combine two processes and get to the same conclusion looking at their PID's. The combinations that we used and the analysis is as follows:

1. **Identical CPU intensive processes:**

   Changed arithoh.sh :
   time ../pgms/arithoh &
   time ../pgms/arithoh &

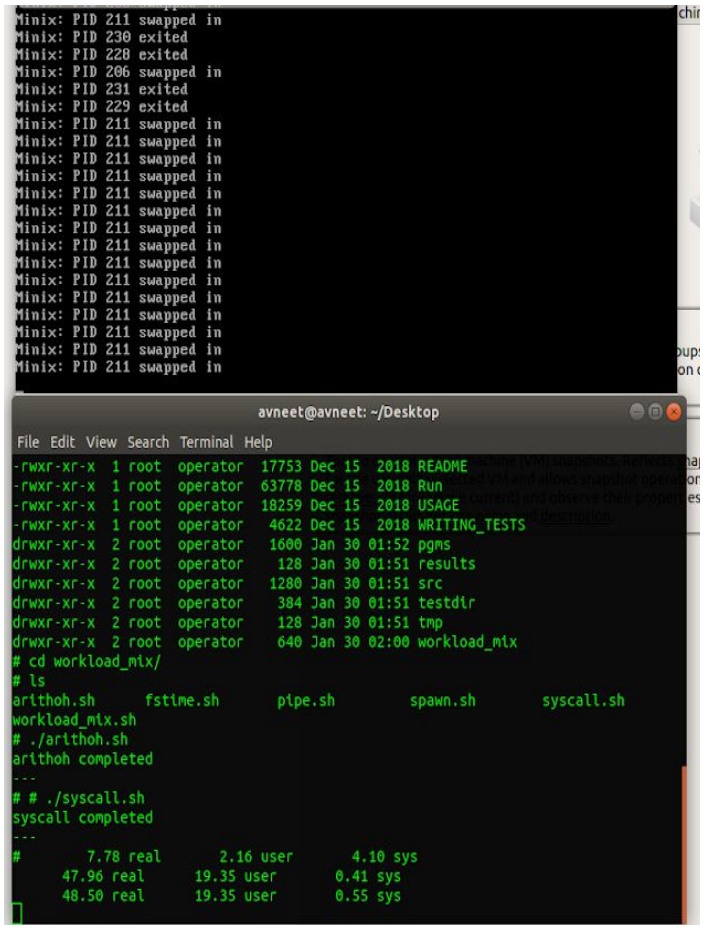


Both processes are CPU intensive.

Alternative PID's are being printed because both processes need CPU(since both are CPU intensive) and thus are scheduled like this.

2. **Different CPU intensive processes:**

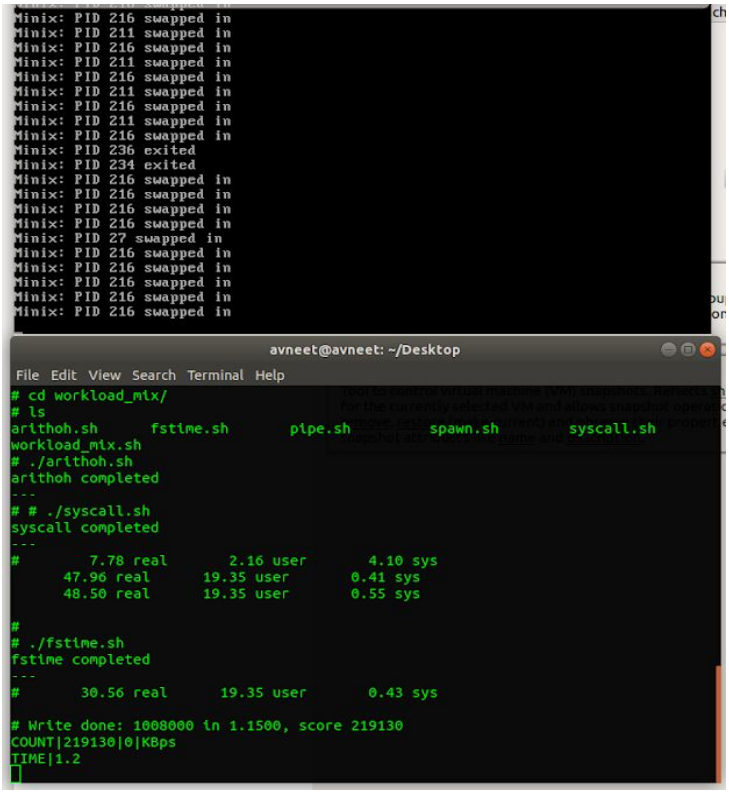
Changed syscall.sh :
time ../pgms/syscall &
time ../pgms/arithoh &



Initially, alternate PIDs are printed.
Later, one process is finished and only the PID of other process is printed then onwards.

3. **CPU and IO intensive processes:**

Changed fstime.sh :
time ../pgms/fstime &
time ../pgms/arithoh &



One process is I/O intensive while the other is CPU intensive.
PID of I/O intensive process is printed and then it waits for its I/O operations to complete.