REPORT

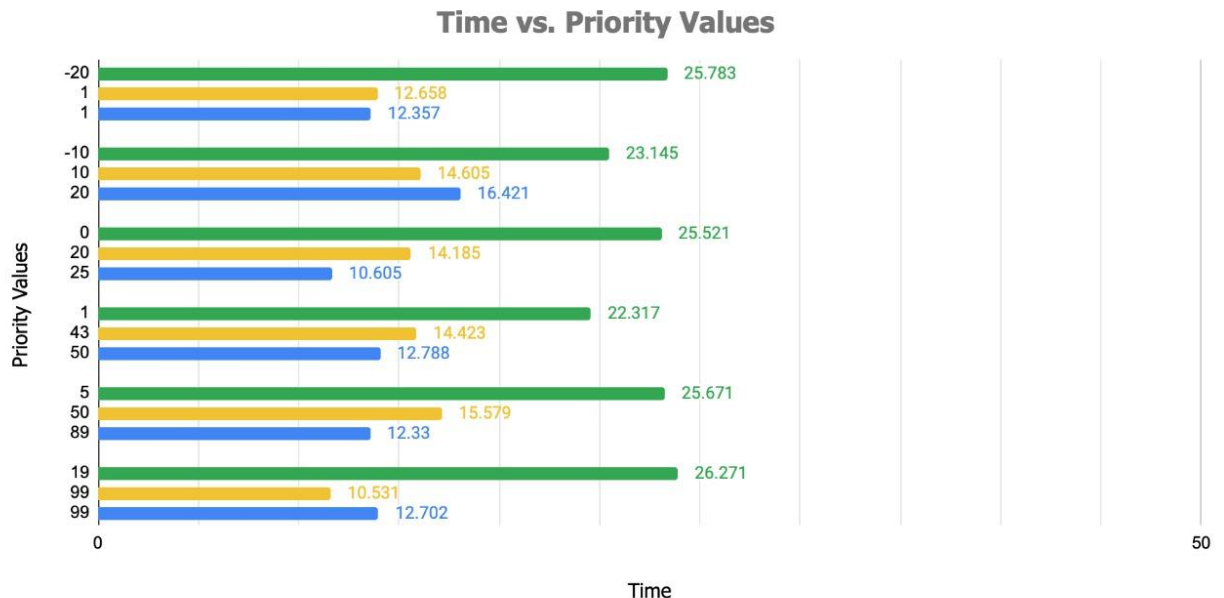1. **Linux pthreads and their scheduling**
    A. **Thread Scheduling:**
        - **The program launches three threads t1, t2 and t3 with different scheduled priority for different values.**
        - **Each of the thread counts from 1 - 2^{32}**
        - **The countA function schedules the t1 thread using SCHED_OTHER scheduling discipline.**
        - **The countB function schedules the t1 thread using SCHED_RR scheduling discipline.**
        - **The countC function schedules the t1 thread using SCHED_FIFO scheduling discipline.**
        - **Clock_gettime function returns the present time since the run of code and later, calculates the time taken by the threads to execute the process using different scheduling methods.**
        - **The nice value is set for the thread 1 and values are calculated accordingly.**

Time vs. Priority Values

Priority Values	Time
-20	25.783
1	12.658
1	12.357
-10	23.145
10	14.605
20	16.421
0	25.521
20	14.185
25	10.605
1	22.317
43	14.423
50	12.788
5	25.671
50	15.579
89	12.33
19	26.271
99	10.531
99	12.702

B. **Process scheduling:**
   - **The program contains three processes created with fork() which run parallelly.**
   - **Each of the processes is scheduled using a different scheduling discipline as in 1.1 and times are noted for calculation.**
   - **The process is executed using the execl() function. As these commands are run on the bash shell, a bash script is written to sequence the commands together.**
   - **Three bash scripts are being written for the same.**

Compilation Times vs. Priority Values

Priority Values	Time
11	1290.69
75	1100.29
83	1035.7
12	709.56
37	510.49
20	513.594
20	719.56
57	520.36
97	490.34
-17	710.47
38	730.45
13	730.78
-17	737.8
87	711.56
3	762.34
-1	717.76
23	710.53
47	732.378