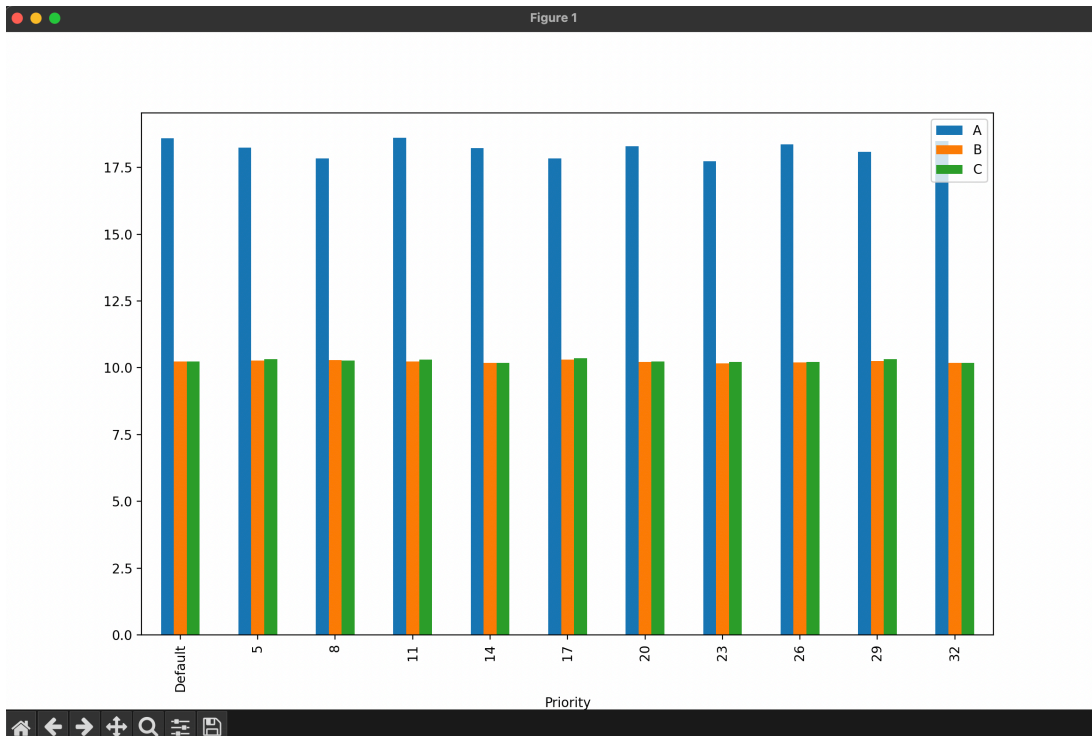
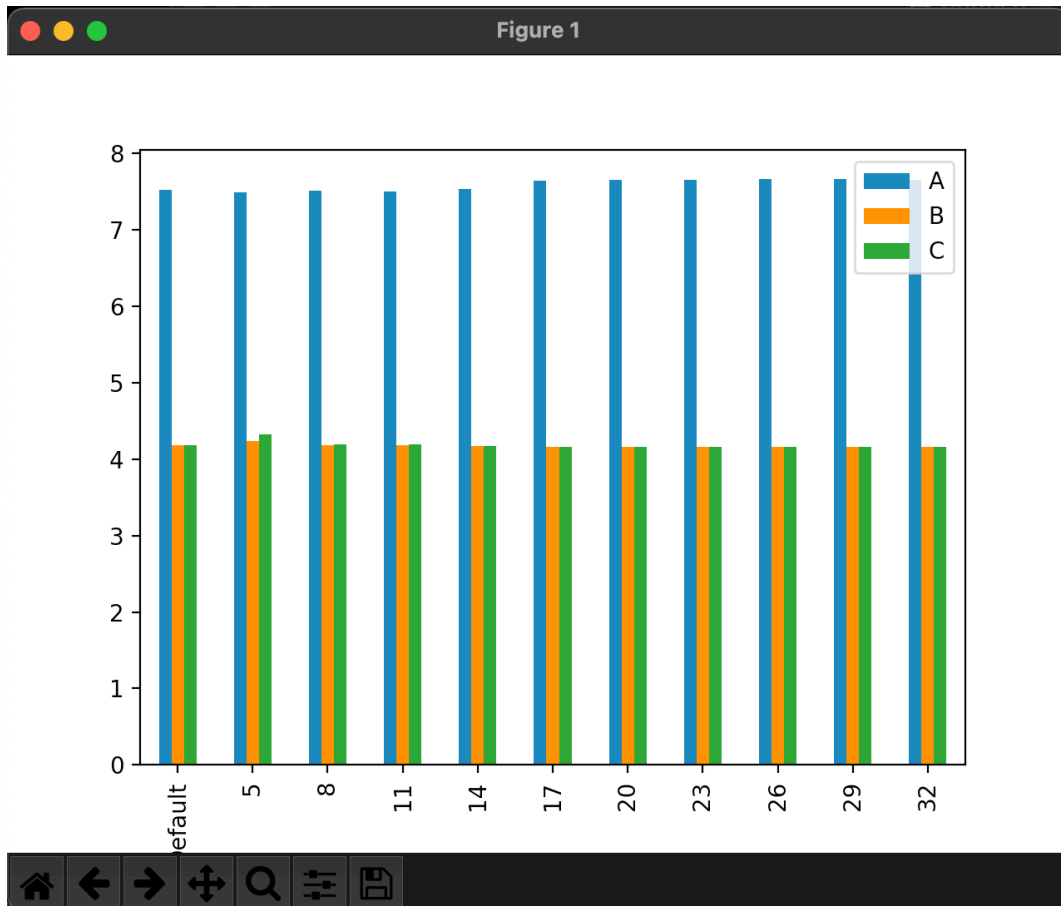


In the first part of this assignment, functions `pthread_create` and `join` have been used to create three threads which rely on three different functions, `countA()`, `countB()` and `countC()` which all count from 1 – $2^{**}32$. Thread A uses `SCHED_OTHER` discipline, Thread B uses `SCHED_RR` and Thread C uses `SCHED_FIFO`.

A loop has been used to increment the priorities of `SCHED_FIFO` and `SCHED_RR`, starting from 5, by counts of 3. `SCHED_OTHER` always has standard priority (`nice:0`).



The histogram generated (using the Pandas library) shows that the time taken by `SCHED_OTHER` is much more than `SCHED_RR` and `SCHED_FIFO` on artix linux. `SCHED_OTHER` is always starved and it is always lower in priority compared to the other two regardless of the change in priority values.



This histogram shows the same for Mac OS.

The second part of this assignment involves creating three processes using `fork()`, instead of threads.

Each process runs a different bash script to compile a copy of the kernel.

Each process has a different priority as well as scheduling discipline hence takes different times to run.

```

1  3: 283.980105201
2  2: 287.206778843
3  1: 288.054396642
4  2: 295.878271060
5  3: 297.538938725
6  1: 301.558758302
7  1: 270.550278625
8  2: 271.121470284
9  3: 273.737981794
10

```

References:

https://sites.ualberta.ca/dept/chemeng/AIX-43/share/man/info/C/a_doc_lib/aixprgdd/genprogc/threads_sched.htm