**Report on Tracking Page Faults for a Process**

Below is the observation results for page faults of different applications as follows:

1. **Kernel compilation(compute and I/O intensive):**:

A screenshot of a cell phone

Description automatically generated

Used a document online to do the compilation procedure.As I found out that while taking input: reading from file column wise there will be many page-faults**,** compared to when you read row wise, the above graph shows page faults for column wise readings. It has more page faults than I/O tasks.Time is on x-axis, time unit is nano second, virtual addresses are converted to decimal for graph.Computing needs more memory access than I/O. It took a lot of time for overall procedure

2. **Sysbench (compute intensive):** used command:

sysbench --test=cpu --cpu-max-prime=20000 --num-threads=32 run &

A picture containing table

Description automatically generated

pid retrieved was 10838.

total page faults came were 29

time is on x-axis , time unit is nano second and virtual address on y axis.

all the page faults came up on graph as you we can the page faults came on virtual address are kind of linear at various time. Page faults came on at the starting of the process and at the end, but virtual address remain linear

observations are of around 20 seconds

number of page faults are less than tasks 1 and greater than task 3

3. **network I/O intensive:**  used iperf -s command on VM

A screenshot of a cell phone

Description automatically generated

total page faults came were 1-2

pattern found is curve with respect to time and virtual address, as time increases virtual address also increased which shows direct relation between virtual address and time. Observations is for around 20 seconds.