Results:

The x-axis represents time and y-axis represents virtual Page number.

X-axis goes from 0 to 30

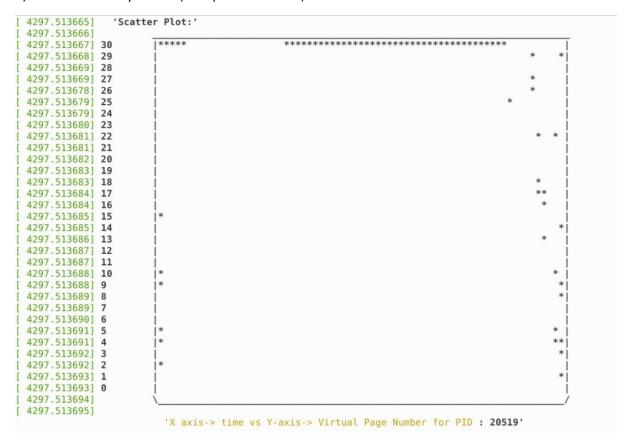
Y-axis goes from 0 to 70

1)Scatter Plot on Bash:

```
3494.094095]
                 'Scatter Plot:'
 3494.094095]
 3494.094096] 30
 3494.094097] 29
 3494.094098] 28
 3494.094098] 27
 3494.094099] 26
 3494.094099] 25
 3494.094100] 24
 3494.094101] 23
 3494.094101] 22
 3494.094102] 21
 3494.094102] 20
 3494.094103] 19
 3494.094103] 18
 3494.094104] 17
 3494.094104] 16
 3494.094105] 15
 3494.094106] 14
 3494.094106] 13
 3494.094107] 12
 3494.094107] 11
 3494.094108] 10
 3494.094109] 9
 3494.094109] 8
 3494.094110] 7
 3494.094111] 6
 3494.094111] 5
 3494.094112] 4
 3494.094112] 3
 3494.094113] 2
 3494.094113] 1
 3494.094114] 0
 3494.094114]
[ 3494.094115]
                          'X axis-> time vs Y-axis-> Virtual Page Number for PID : 4361'
```

Used ps -I to get pid of bash.

2)Scatter Plot for Sysbench (compute intensive):



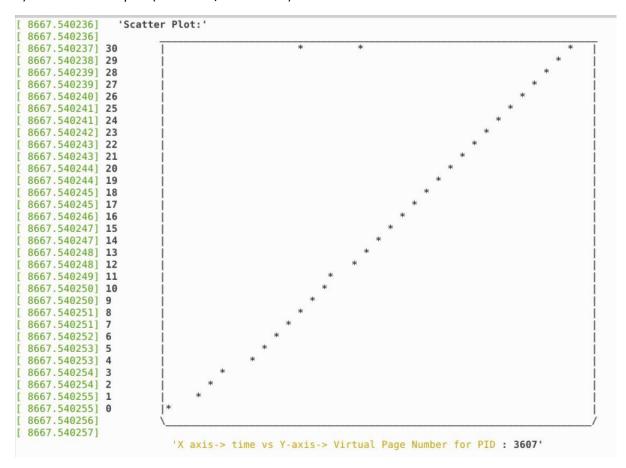
Steps:

1st terminal: sysbench –test=cpu –cpu-max-prime=20000 run & echo \$! sleep 60

It displays the pid . Get that pid

2nd terminal: Use that pid for insmod before the process completes

3)Scatter Plot for Iperf (Network I/O intensive):



Steps:

1st terminal: iperf3 -s -p 2323

2nd terminal: ps -aux

Get pid of iperf

Insert kernel module (insmod)

3rd terminal : iperf3 -c 128.226.28.73 -p 2323 -f K

While running this(before it completes), immediately remove the module (rmmod) using 2nd terminal

Close 1st terminal server process

Conclusions:

We know how a page fault occurs.(during swapping since the virtual address cannot be modified during in-process)

We can say that the page faults appear majorly because of the cold start penalty.

In bash, we get the page faults nearly to the 4 corners.

In sysbench(which is compute intensive), we get nearly to the ends/edges, but here we get more page faults since it is compute intensive.

However, in iperf(network intensive), we get a linear scatter plot. Since, it is network intensive, page faults occur with time i.e when packets as passed over network.