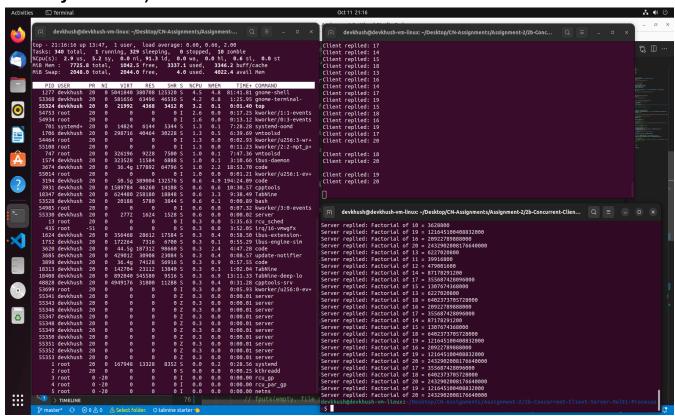
Computer Networks Assignment 2

Name: Khushdev Pandit Roll no.: 2020211

Screenshots of Time, CPU and Memory usage in various server programs for 2b, 2c, 2d

Question 3)

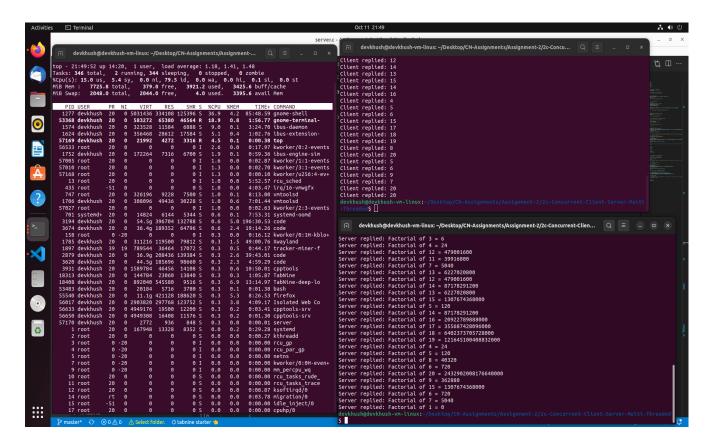
a) Concurrent server program with multiple processes (using fork system call) - 2b



Time taken, CPU usage, Memory usage by server program with multiple processes:

Time taken = "0:00.02" = 0.02 seconds (minutes:seconds.hundredths)
CPU usage% = 0.6%
Memory usage% = 0.0% (nearly)

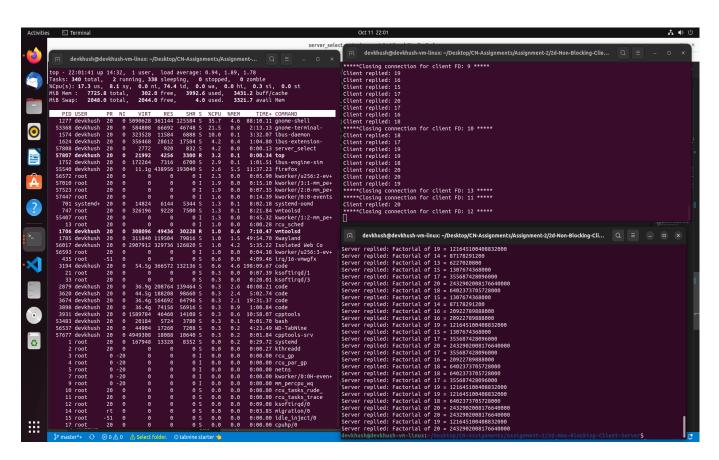
b) Concurrent server program with multiple threads (using pthreads) - 2c



Time taken, CPU usage, Memory usage by server program with multiple threads:

Time taken = "0:00.01" = 0.01 seconds (minutes:seconds.hundredths)
CPU usage% = 0.3%
Memory usage% = 0.0% (nearly)

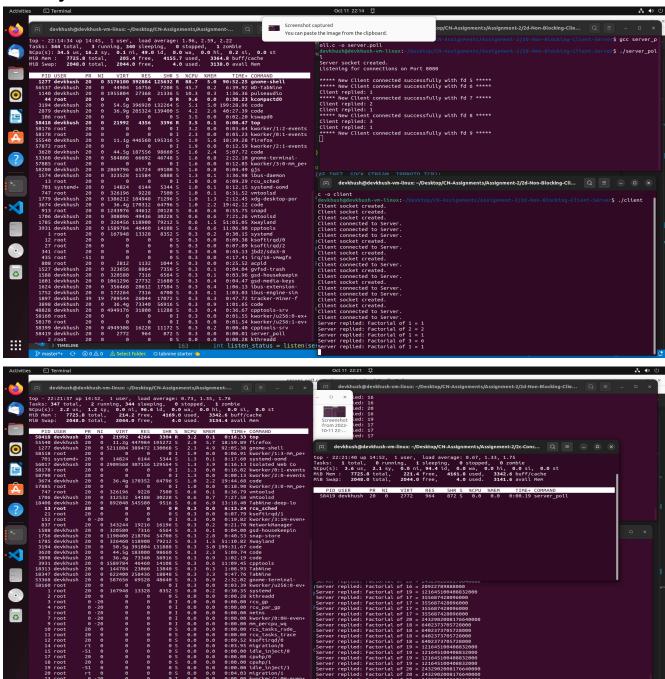
c) Non-blocking server that can manage total 10 clients, using select() system call - 2d



Time taken, CPU usage, Memory usage by non-blocking server, using select() system call:

Time taken = "0:00.13" = 0.13 seconds CPU usage% = 4.2% Memory usage% = 0.0% (nearly)

d) Non-blocking server that can manage total 10 clients, using poll() system call - 2d



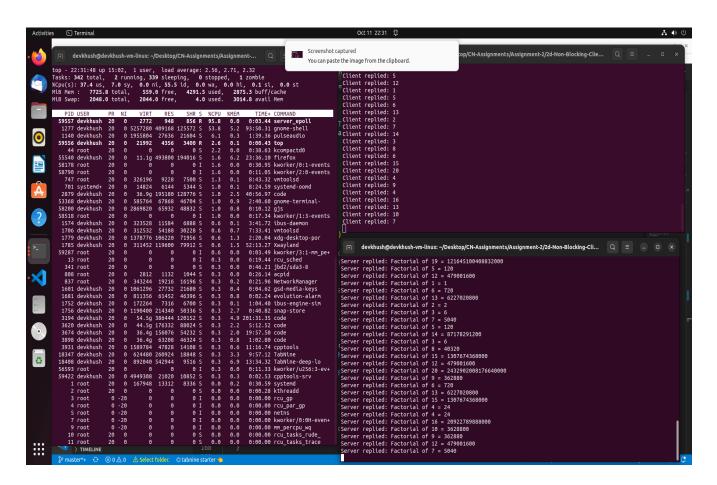
Time taken, CPU usage, Memory usage by non-blocking server, using poll() system call:

Time taken = "0:00.19" = 0.19 seconds

CPU usage% = 0.3%

Memory usage% = 0.0% (nearly)

e) Non-blocking server that can manage total 10 clients, using epoll API call - 2d



Time taken, CPU usage, Memory usage by non-blocking server, using epoll API call:

Time taken = "0:03.44" = 3.44 seconds

CPU usage% = 95.8%

Memory usage% = 0.0% (nearly)