OPERATING SYSTEMS LAB

Assignment 3: Report

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Task 1b

The number of processes that can run concurrently in a CPU is equal to the number of cores in the CPU. In this assignment, we are generating the R1*C2 number of processes to perform matrix multiplication. Thus this value should be less than or equal to the number of cores in a CPU for all the processes to be able to run in parallel.

Thus for a CPU with 4 cores (which is the case for my laptop), we can run 4 processes in parallel and thus R1*C2 <=4.

If c is the number of cores in a CPU then R1*C2 < = c.

Though, it is observed that we can multiply larger matrices without any errors. This is because the number of processes that a CPU can run is much more than the number of cores as it can switch between processes using context switching. The maximum processes that can be forked are about 8 thousand for my laptop and vary from laptop to laptop depending on the laptop specifications.