

## Report for Task 1 (b)

From the man page of fork, we found the conditions when the fork() call fails:

**EAGAIN** A system-imposed limit on the number of threads was encountered. There are a number of limits that may trigger this error:

- \* the **RLIMIT\_NPROC** soft resource limit (set via `setrlimit(2)`), which limits the number of processes and threads for a real user ID, was reached;
- \* the kernel's system-wide limit on the number of processes and threads, `/proc/sys/kernel/threads-max`, was reached (see `proc(5)`);
- \* the maximum number of PIDs, `/proc/sys/kernel/pid_max`, was reached (see `proc(5)`); or
- \* the PID limit (`pids.max`) imposed by the cgroup "process number" (PIDs) controller was reached.

The limit on number of processes and threads come out to be 60951, using the call “`cat /proc/self/limits`”

The maximum number of PIDs come out to be 4194304, using the call “`cat /proc/sys/kernel/pid_max`”

These are the two values limiting the number of fork() called we can make.

So if we make more calls to fork() than this number, it'll throw an error and our code will fail.