ELEC 377 Operating Systems F22

Lab 1: Testing

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Describe the differences in the output files

Differences

For root and user mode, the name property will always correspond to the name of the command being called in the shell as seen in Figure 1 and 2. The PPID remains the same when the shell command is called using cat and dd because the parent process id for the shell hasn't changed (when the user remains the same) as seen in Figure 1 and 2. However, when the mode switches between root and user, a new shell will be started for the current user. Therefore, the PPID will change because the shell will be different based on the current user as seen in Figure 1 and Figure 3. For both root and user modes, the PID specifies the process id of the command being called in the shell; that is why they are different when the cat and dd commands are called as seen in Figure 1,2,3, and 4. When in root mode, all UID and GID properties are set to 0 compared to common user mode which has unique values for their UID and GID properties. Additionally, the user values are valid because they matched the corresponding net IDs in the /etc/passwd path.

Root Mode

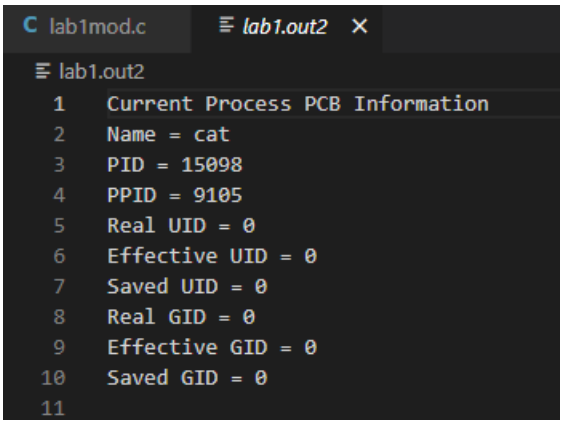

Figure 1: cat command

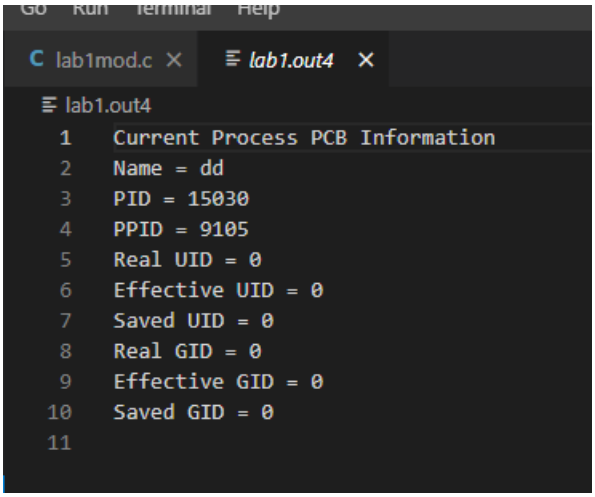

Figure 2: dd command

User Mode

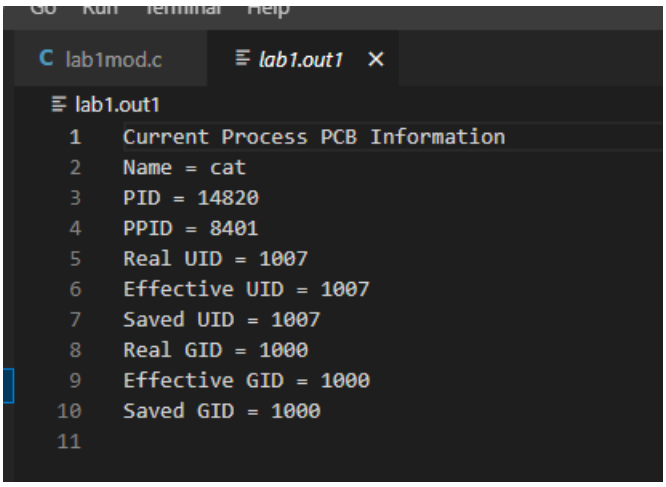

Figure 3: cat command

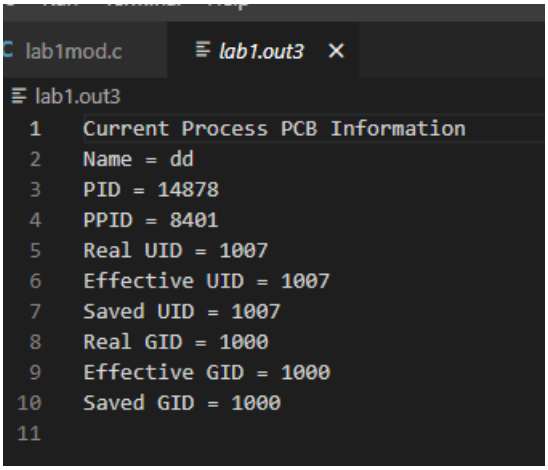

Figure 4: dd command