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Homework 3

1a. The parent process executes everything but lines 4 and 5, since it stores the value of its child process id in pid and thus sets its value greater than 0, passing the if condition. It executes lines 1, 2, and 3.

1b. Since pid was unassigned to when the child process was created, it remains 0, so it executes line 2, fails the if condition and goes on to execute lines 4 and 5. It executes lines 2, 4, and 5.

1c. Once the child is forked there are two separate processes, and since there is nothing telling either process to wait for the other to complete in the code, when each process is executed is up to the operating system to schedule. It could execute the child first, printing "Line 5" before "Line 3".

2.

Process 1 = 10026, parent = 8095

Process 2 = 10027, parent = 10026

Process 3 = 10028, parent = 10026

Child 10027 exited.

Child 10028 exited.

3.

Process 1 = 10796, parent = 8095

Process 2 = 10797, parent = 10796

Process 3 = 10798, parent = 10797

4.

Process 3 = 13705, parent = 13704

Process 2 = 13704, parent = 13703

Process 1 = 13703, parent = 13367