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Interpretation

When the program starts, the parent process P defines the variables a, b, fq, and fr. Parent P then forks the child Q into variable fq. Then, Parent P runs first when it executes the else statement (because for P, fq > 0). P recalculates b to be 30 and as a result, a = 10 and b = 30. Then, P prints its PID and exits the program. Because P terminated, the remaining child processes become orphans. However, they still run. After the process is done, Q is forked and it executes the if statement (because for Q, fq == 0). Q recalculates a to be 35, resulting in a = 35 and b = 25. Then, Q prints its PID. Afterwards, Q forks another process R. The if statement that follows is then executed by Q and not by process R, because for R, fr == 0 and for Q, fr != 0. Q then recalculates b as 45, resulting in a = 35 and b = 45. And then, Q prints its PID again. Next, R executes the else statement since it didn't execute the if statement. R recalculates a as 905, resulting in a = 905 and b = 25. After that R prints its PID. In the program as it is now, the processes run in the following order: P, Q, R. In some rare instances, the user may have to enter ctrl + C to end the program, since after process R runs, it doesn't have a parent to return to.