CS39002 Operating Systems Laboratory
Spring 2015

Assignment No 1
Due on Jan 20, 2015, 1:00pm

Part 1: Write a C program, `fibchild.c`, which computes and prints Fibonacci numbers in child processes. The program runs in a loop and creates a child process, which computes the current Fibonacci number and prints it. The parent waits for the child finish and then continues executing. Take the number of Fibonacci numbers to be printed as input. Fibonacci number are defined as:

$$fib(n) = fib(n-1) + fib(n-2), n > 2$$
$$fib(1) = fib(2) = 1$$

Part 2: Write a C program, `fibchildpar.c`, which computes Fibonacci numbers in child processes in parallel and returns them to the main program. Take the number of Fibonacci numbers (*nfib*) to be printed as input. The main program creates an array of size *nfib*, and spawns a child process for each $n < nfib$. When the process return with the Fibonacci number, the main process stores the output in appropriate location in the array. The main program prints all the Fibonacci numbers after all the processes have returned.

Part 3: Modify the above program (`fibchildpar_ch.c`), such that it prints the Fibonacci numbers in child processes.