CS570 Spring 2014 Assignment 3

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You shall implement an interruptible clock and countdown timer

You shall create a program that does the following:

- Upon startup, determine the amount of time for the countdown timer, either the default value of 6 seconds or a value from the command line argument to the program. Note - the time will be provided as seconds.
- The program shall create two child processes, then busy-wait until both children are complete and exit.
- The first child process shall implement a clock which prints the hour, minute, and second once every second (localtime, not Zulu, or time since epoch, etc)
- The second child process shall implement a countdown timer which prints the minutes and seconds remaining, once every second, until 00:00 is reached.
- The second child process, upon reaching 00:00, shall notify (signal, or pipe, or ..., etc, your choice of IPC mechanism) the first child process (it's sibling) telling it to terminate.
- Once both child processes have terminated, the parent shall print a friendly message then exit.

Your project shall include a README file

I will test your program by compiling it and executing it on rohan. Your program shall be written such that it compiles and executes cleanly when using cc/gcc/CC/g++ on rohan. Note - you must use a Makefile. You shall create a sub-directory named "a3" in your home directory. In it, you shall place all of your project files, including your Makefile and a README file. Your source files shall contain sufficient comments for making the source easy to read. Points will be taken off for poorly (or non) commented source. Name the executable "a3".

- Create ~/a3 by hand.
- Create all necessary project files. Put them into ~/a3.
- The Makefile shall create an executable named "a3" in this same directory (~/a3). o The system call "system()" will NOT be allowed
- You may work individually or in teams of two on this assignment
- You may use cc, CC, gcc, or g++ compiler on this assignment

The assignment is due on MONDAY, 5 MAY 2014 by 1730

TURNING IN YOUR WORK:
Follow the turn-in procedures on class Blackboard.