Time and Forking Children

### Due Date: September 12, 2014 @ midnight Submission Subject: “Time and Forking Children”

## General Submission Criteria:

* See Lab 0 for the General Submission Criteria!
* Make two new directories in your repository: lab0 and lab1
* Move your Lab0 files into the Lab0 subdirectory
* Include all of your Lab1 work within the lab1 directory
* See also <http://www.csun.edu/~steve/Classes/COMP322/git.html>

## Executable Name:

time-4-baby-and-me

## Description:

In this software project, you are to write a command line tool that reports basic process identification information, and the associated times for running the command line tool. The general processing of this tool is as follows:

* The program prints the number of seconds since.. (see time(2))
* The program creates a child process (see fork(2))
* The program will wait for the child to finish (see waitpid(2))
* The program and its child reports on the information
  + The process ID of its parent (see getppid(2))
  + Its own process ID (see getpid(2))
  + The process ID of its child (if applicable) (see fork(2))
  + The return status of its child (if applicable) (see exit(3), waitpid(2))
* The program will report the following time information (see times(2))
  + user time
  + system time
  + user time of child
  + system time of child
* The program prints the number of seconds since.. (see time(2))

## Programming Requirements:

* Both the parent and the child must use the same function to report its process information.
* Include the Makefile provided, and augment it appropriately.  
  Specifically, you need to, at least, modify the SRC and OBJ variables.
* You don’t have to use comp322.sandbox.csun.edu, but you may find it useful.

## Usage Example:

|  |
| --- |
| $ time-4-baby-and-me  START: 1410281230  PPID:26485, PID: 26843  PPID:26484, PID: 26485, CPID: 26843, RETVAL: 0  USER: 233354, SYS: 2334455  CUSER:234434, CSYS: 233223  STOP: 1410281240 |

## See Also:

* man ctime
* $ date +”%s”
* $ ps -ef | head