CS 149 / SE 149
Operating Systems

Spring Semester 2015

Department of Computer Science
San José State University
Instructor: Ron Mak

Assignment #1

Assigned: Tuesday, January 27
Due: Monday, February 2 at 11:59 pm
Team assignment, 100 points max

Linux up and running

The purpose of this assignment is to give everyone practice installing Linux in a virtual machine. You may choose Debian (preferred) or Ubuntu.

Virtual machine

Install VirtualBox. Then install Linux (Debian or Ubuntu) in a virtual machine controlled by VirtualBox.

What to run

Start up Linux in a in a virtual machine. Open a terminal window and first run the command

> **grep** *username* **/etc.passwd**

Where *username* is your username that you chose while installing Linux. Then compile and run **forktest.c**

```
gcc –o forktest forktest.c
./forktest
```

What to turn in

This is a team assignment, so each team should collect a screenshot from each team member. Name each screenshot file after your team name followed by the member's name, such as **SuperCoder-Jones.png**. In order for the team to get a perfect score, each screenshot must be good, so help each other get Linux up and running!

Each team should email the zip file to <u>ron.mak@sjsu.edu</u> Your subject line should be:
CS 149-_section_ **Assignment #1** _team name_

Be sure to CC all the members of your team so that when I send you your team score, I can just do a "Reply all".

forktest.c:

```c
#include <stdio.h>

main()
{
    printf("Parent: Process started\n");
    printf("Parent: Forking a child.\n");

    if (fork() != 0) {
        // Parent
        int status;
        printf("Parent: Wait for child to complete.\n");
        waitpid(-1, &status, 0);
        printf("Parent: Terminating.\n");
    }
    else {
        // Child
        printf("Child: Process started.\n");
        printf("Child: Start 10 second idle:");

        int i;
        for (i = 10; i >= 0; i--) {
            printf("%3d", i); fflush(stdout);
            sleep(1);
        }
        printf(" done!\n");
        printf("Child: Terminating.\n");
    }
}
```

Example screenshot: