Operating Systems and Kernel Design
16.481/16.573
Fall 2021
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Assignment #1

In this assignment, you will be working with processes on the Linux platform. You will be programming in C or C++.

Part1. a) Write a program ***prog*** that repeatedly creates a sub-process using `fork`, and `wait`s until it terminates. Each child process displays "Child Running" and calls `exit` immediately.

b) modify ***prog*** so that each child process spawns another program *b* using `execve`. The program *b* immediately exits.

Part2. Write a program that takes a single integer argument n from the command line and create a set of 2*n processes. Each process should display the phrase " I am process x", where x is the process ID, and then terminates.
For example, if the user enters the command:

% run 4 (Where run is the executable of you c program.)

Then the output of your program should be:

I am process 1
I am process 2
I am process 3
I am process 4
.
.
.
I am process 8

Make sure that the original parent process does not terminate until all of its children have died (make careful usage of the wait() function as seen in class).