**Operating Systems**

**Lab 2**

**Zombie and Orphan Processes**

1. Using a Linux system, write a C program that forks a child process that becomes a zombie process. This zombie process must remain in the system for at least 10 seconds. Process states can be obtained from the command

ps -l

The process states are shown below the S column; processes with a state of Z are zombies. The process identifier (pid) of the child process is listed in the PID column, and that of the parent is listed in the PPID column.

Perhaps the easiest way to determine that the child process is indeed a zombie is to run the program that you have written in the background (using the &) and then run the command ps -l to determine whether the child is a zombie process. Because you do not want too many zombie processes existing in the system, you will need to remove the one that you have created. The easiest way to do that is to terminate the parent process using the kill command. For example, if the process id of the parent is 4884, you would enter

kill -9 4884

1. Create an orphan process. Prove that it is an orphan.