CS355 Lab Notes #3 Shell design

Read hw3 handouts. Form your group and work on your shell design. Each group must make sure that at least one group member will attend labs and can report/receive feedback for the group.

Study the following system calls:

1. `sigaction()`, `siginfo_t` and `SIGCHLD`
2. `sigprocmask()` / `sigemptyset()` / `sigaddset()`
3. `getpgrp()` / `setpgrp()`, `getpgid()` / `setpgid()`
4. `tcgetpgrp()` / `tcsetpgrp()`, `tcgetattr()` / `tcsetattr()`

Lab exercise (to present at next lab):

Each group will be assigned system calls to experiment with and present sample code during Wednesday 9/29’s lab. You should write notes that explain how to use the system call and provide sample code that demos how the system call works, particularly in the context of the shell we are working on.

Note that the above doesn’t mean that your group can ignore the system calls that are not assigned to you. You will need to understand and use all of them effectively for a functional shell. It just means that you can rely on the other groups to carry the weight of digging up the details.

Each group should also come prepared to give a 5-minute presentation on how your shell is supposed to work. Be specific on the following:

1. Which signals does your shell handle explicitly? Which does your shell ignore?
2. What data structures are you using?
3. What parameters are you storing for each job?
4. Explain what your shell plans to do with a newly submitted foregrounded job as well as a newly submitted backgrounded job
5. How are you handling concurrency issues?