Operating Systems

Project 3

Shell Signal Handling

- ctrl-c sends SIGINT
- ctrl-d sends EOF, not a signal
- SIGINT, SIGTERM, SIGTTIN, SIGTTOU, SIGTSTP, SIGQUIT
  - Shell should not be interruptible/stoppable
  - Child processes should be
- Children inherit parent’s signal masks
  - If the shell ignores ctrl-c, so does its children
  - Set the signals back to default before you replace the child process

Signal Masks

- Manage shell’s signal setups and termios first thing – before looping for input and forking
  - which signals to ignore
  - register signal handers
- Set all children’s signal behaviors back before exec
  - anything the shell changed should be set back to default

Pointers

- setpgid
  - both shell and child should call setpgid to set the process group id of the child
  - this counters the race condition
- sa_flags
  - SA_RESTART
  - SA_RESTART | SA_SIGINFO
- tcsetattr – use flag TCASDRAIN
- Send SIGCONT to –pid, so that it goes to all processes in the same group