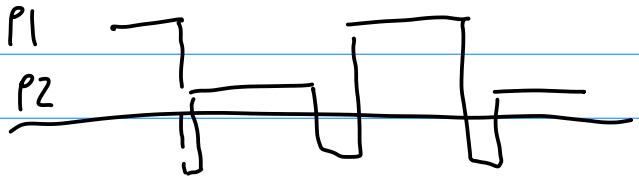
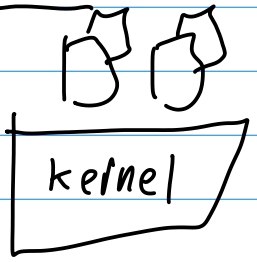
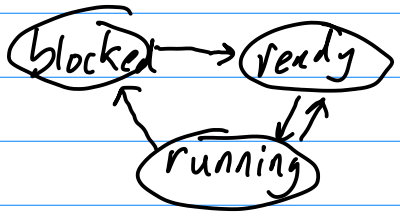
CS 3214 lecture #8 "shells"

Processes - safely multiplexing the hardware
↳ OS abstraction





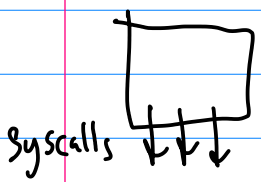


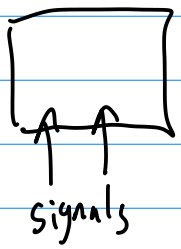
OS provides API's
- unified access/use resources

open
read
write
close
} file descriptors

OS provides API creating new processes
- fork
- exec

OS provides API for processes to communicate
- pipes

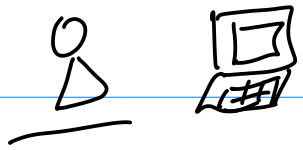




Synchronous
Asynchronous

between - creation
- communication
- signals

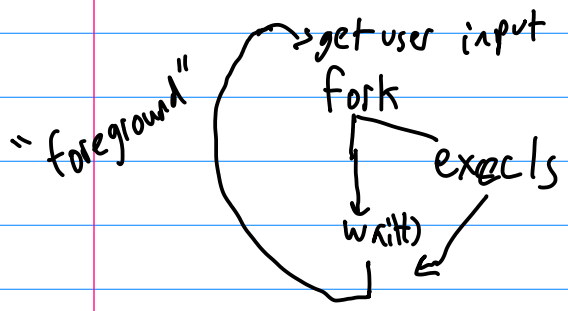
OS provides all the tools we need for a user process to manage/control lifecycle of programs



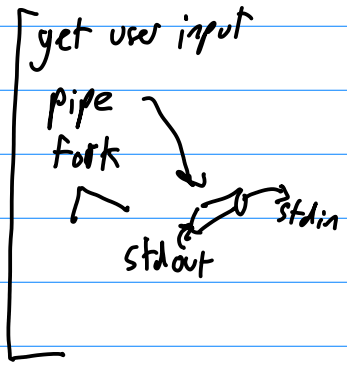
user intention → shell.
- job control

What is a shell?
- user program
- read/eval loop

bash $ cush
cush>



[builtins] vs. normal execution

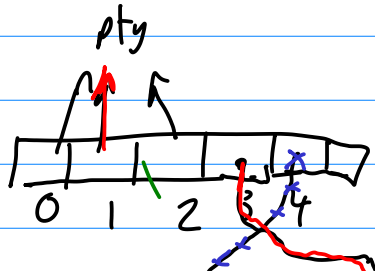


- pipes |

ljos

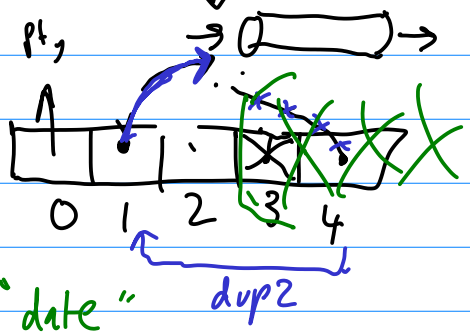
-fg/bg
- terminate / stop
  Ctrl-C Ctrl-Z

parent



job
- can be >1 process per job
- tell user what happen

child



what does the kernel know about jobs?
- process groups
- groups of processes
  signals can be sent to entire pg