Topics: signals, timers, curses, animation

Approach: Writing a Video Game

Main Questions:

How to control a terminal screen?
How animate a terminal screen?
How does sleep() work?
How do signals work?
How to create animation with user control?

Outline

Overview: programming for humans II
  focus: screen and output control
  method: write a video game
  outline: determine what skills we need

2 Screen Management: the curses library
  hello1 : simple example
  hello2 : programming with curses
3 hello3 : add a timer
  hello4 : add erase for animation
  hello5 : add bouncing

4 Questions based on hello3 - hello5
  How does sleep work? Ans: signal(), alarm(), pause()

5 More signals: reliable vs. unreliable, etc
  idea: what happens if more than one signal arrives?
  questions: window of opportunity, stackable signals?
    EINTR on slow devices
  code: sigdemo.c

 Better Time Control than alarm()
  setitimer(2) offers three timers, hi-res, pulsing
  alarmlib() simplifies its use
  code: hello6.c
  code: play_again5.c

6 User-Controlled Animation
  bounce1d : ticker drives animation, user changes state

7 Animaton in Two Dimensions
   Extend ideas from bounce1d to two directions of motion
   two sets of state variables:
     horizontal speed, position, and ticks to go
     vertical   speed, position, and ticks to go