Day 4:

Today we will make a simple version of pong! Follow along with me as we put the code together.

* What does pong consist of?
  + Ball
    - Must move around
  + Paddle
    - Controlled by the player
  + Board
    - Limits where the ball and player can go
* HTML and CSS
  + Required pieces of a website
  + HTML
    - Defines structure
    - What things exist on this page?
  + CSS
    - Defines style
    - What should these things look like?
  + Javascript
    - Defines behavior
    - What should happen when the user clicks?
    - How should the paddle/ball move?
* Designing our program
  + Nouns and verbs
    - Nouns become variables
    - What variables do we need to implement pong?
    - Take answers from the group and create them
  + Verbs become functions
    - What actions do we need to perform?
    - We need to draw one frame at a time
      * Explain animation
      * Explain starter code that’s given which sets up the animation frames
    - We need to update the CSS
      * Position of the ball
      * Position of the paddle
  + Work through the implementation:
    - Get a ball and paddle on the screen first
    - Then make the ball move
    - How can we make the ball bounce off the wall?
    - How can we make the ball bounce off the paddle?
    - Then get user input and make the paddle move
  + If time permits, give them a chance to extend the pong implementation
    - Slide provides many possible ideas
* Objects
  + Key part of modern programming
  + Represents things in the world around us
  + This implementation would be better off with objects for the ball and paddle
    - Ball is responsible for updating its own position
    - Paddle is responsible for detecting user input
* Programming languages
  + Javascript is but one language
  + Many others exist with variations in behavior and syntax
  + Pseudocode is language neutral
  + We can start with pseudocode and convert to whichever language we need
  + Concepts are the same across languages!
  + Compare javascript and c implementations of Fibonacci function
* CS50
  + Talk about the class and encourage people to sign up if they are interested