Topics: Functions: Input, Processing, Output

Approach: Build from Basic Ideas, Lots of Repetition

Main Ideas: function input/output, user input/output

1. Admin
   - HW9 Due Wed night
   - Exam 2 Wednesday in Lab
   - history of computing, bits, Javascript (counters, buttons, alert, prompt)

2. From Pictures to Numbers
   - A web page can show images and text and respond to events
   - A web page can analyze and process data
   - Examples: squareroot.html, f2c-prompt, f2c-text
   - How do they work?
     - user input, storage, processing, output
   - Look at squareroot.html
     - input, storage, processing, output
     - now, let’s modify it to handle bad input

3. Quick Summary and Reference
   - input
     - prompt, button, text
   - storage:
     - variables - define, set `var x; x = 3; x = x + 2`
     - Remember: variable = value
   - processing:
     - arithmetic: +, -, *, /, %
     - conditional statements: `if () { .. } else { .. }
     - comparison operators `== < <= >= > !=`
     - boolean operators `|| && !`
     - functions: parameters, return value
   - output:
     - alert, text

4. Processing: Function overview
   - First, review functions from math
   - Two kinds of functions
     - Functions that do something (job function)
       - `nextpic()`, `alert()`, `find_root()`
     - Functions that compute and give back a result (math style)
       - `Math.sqrt()`, `f2c()`
   - Where do functions come from?
     - Built-in to Javascript: `Math.sqrt()`, `prompt()`, `alert()`
     - User-written: `f2c()`, `find_trend()`, ..
   - Functions accept values as one or more parameters
   - Practice: write some

5. Input and Output
   - Using prompt to get input, alert for output
   - Using text box for input and output
   - Multiple inputs, text is better