CS1320
Creating Modern Web and Mobile Applications
Lecture 9:
JavaScript/DOM Lab
Lab Assignment

• Create a triangle teacher geared at middle-junior-high school students
  ○ Teaching tool
• Input 3 numbers representing the lengths of the sides
  ○ Error checking as appropriate
• Display:
  ○ The corresponding 3 angles
  ○ Area and perimeter of the triangle
  ○ Whether the triangle is
    ■ Equilateral, Isosceles, Scalene, or Not a Triangle
    ■ Acute, Right, or Obtuse
• Do this all using html and JavaScript (no server)
Team Organization

• Work in teams of 2-4
• Create a general plan (working together)
  ○ Sketch the web page and its functionality
  ○ Before you begin coding
• Define interfaces
  ○ IDs of input and output fields
• Split into tasks
  ○ One doing the HTML/CSS for the page
  ○ One doing the JavaScript for triangle computations
  ○ One doing other JavaScript for the page
• Optional: draw the triangle
Objectives

• Designers
  o Create an easy-to-use teaching/learning tool
  o Simple and elegant

• Concentrators
  o Keep the code simple
  o Beware of floating point computations (might be inexact)
    ▪ How do you tell if a triangle is a right triangle?
    ▪ Check with 0.3, 0.4, 0.5
  o Use Pythagorean theorem rather than looking at angles
    ▪ $x^{2} + y^{2} \approx z^{2}$ means right
    ▪ $X^{2} + y^{2} > z^{2}$ means acute
    ▪ $x^{2} + y^{2} < z^{2}$ means obtuse
Mechanics

• Try to get it working in class
• Lab: [www.cs.brown.edu/courses/cs132/labs/lab2/lab2.html](http://www.cs.brown.edu/courses/cs132/labs/lab2/lab2.html)
Next Time

• Front End Frameworks
• Prelab 3
• Assignment 1