My Advice:
- Read through **all** the latest lecture slides, which generally follow the textbook. Also be sure to review additional notes on the board (if you missed a class, connect with a classmate)
- Read the **book**
- Look over all the recent labs (9, 10, 11, 12)
- Practice, practice, practice – **write** out key concepts.
- Form a study group
- Attend the CS tutoring sessions

Overview
The test will consist of up to 60 Multiple Choice questions.
Below is an outline of the key concepts we have covered since Exam 2, and some sample questions

Forms
Conversions of weight, height, temperature – as shown in class and slides

Chapter 18
Overview: Programming Concepts
Names, Values, and Variables
  - Names Have Changing Values
  - Names in a Program Are Called Variables
  - Identifiers and Their Rules
A Variable Declaration Statement
  - The Statement Terminator
  - Rules for Declaring Variables
Three Basic Data Types of JavaScript
  - Numbers
  - Strings
  - Boolean Values

Chapter 10
Understand:
Algorithm: A Familiar Idea
  - Algorithms in Everyday Life
  - Five Essential Properties of Algorithms
  - Language in Algorithms
  - The Context of a Program
  - Program Versus Algorithm

Chapter 11
Understand:
Digitizing Color
  - RGB Colors: Binary Representation
  - Black and White Colors
Manipulating Color
  - Lighten Up: Changing Color by Addition
  - To Increase Intensity: Add in Binary
  - Lighter Still: Adding with Carry Digits
  - Changing the Colors of a Moon Photo
Digitizing Sound
  - Waves, frequency, pitch, amplitude
  - Analog to Digital
  - Digital to Analog
Digital Images and Video
  - Image Compression
  - MPEG Compression Scheme
Optical Character Recognition
- OCR Technology
Virtual Reality: Fooling the Senses
- Haptic Devices
Bandwidth
- Related latency

Chapter 8
Understand:
Digitizing Discrete Information
- Limitation of Digits
- Alternative Representations
- Symbols,
Fundamental Information Representation
- The PandA Representation
- Bits in Computer Memory
Binary and Decimal
- Conversions
Hex Explained
- The 16 Hex Digits
- Changing Hex Digits to Bits and Back Again
Digitizing Text
- Assigning Symbols
- Extended ASCII: An 8-bit Code

Reading Assignment
Be sure to have done the reading for Lab 11

Excel Labs
Be sure to have a good understanding of the main concepts covered in Labs 9 and 10

Note: the following are sample questions so that you have a feel for the types of questions that can be asked. As per class discussion, you will be provided with 2 tables that are in your presentation to help you.

Sample Questions

1111 1111 (in base 2) when converted to base 10 is:
A. 256 256
B. 255
C. FF FF
D. 1000 1000
E. none of the above

34 (in base 10) when converted to base 2 is:
A. 10 1111
B. 10 0100
C. 10 0010
D. 01 0001
E. none of the above

How is 1111 1010 1011 0100 (in binary) represented in hexadecimal?
A. 2 B A D
B. F A B 4
C. 2 F A B
D. B A D 4
E. none of the above
How is the backspace represented in ASCII code?
A. 0010 1010  
B. 0000 1000  
C. 0010 0101  
D. 0000 0001  
E. none of the above

Given that 1 kg = 2.2 lbs, how many kgs are in 1 lb?
A. 1.22 lbs  
B. 2.2/1 kgs  
C. 1/2.2 kgs  
D. none of the above  
E. all of the above

Given that 1 USD = 0.75 Euros, which of the following correctly reflects the partial code for a form (as per class examples):
A. `<input type=text name="amountUSD" size=4 onChange='amountEuro.value = amountUSD.value / 0.75'>`  
B. `<input type=text name="amountUSD" size=4 onChange='amountEuro = amountUSD / 0.75'>`  
C. `<input type=text name="amountUSD" size=4 onChange='amountEuro.value = amountUSD.value * 0.75'>`  
D. `<input type=text name="amountUSD" size=4 onChange='amountEuro = amountUSD * 0.75'>`  
E. none of the above

Which of the following is a correct representation of a declaration?
A. `var x = 7;`  
B. `x = x+4`  
C. `var x = 7`  
D. `x = x+4`  
E. none of the above

14.6 == 7.3 evaluates to:
A. true  
B. 7.3  
C. wrong  
D. false  
E. 2