Midterm # 2 Review

- Midterm Exam is on Wednesday, 20th during class
- Format of the exam is same as midterm #1
- Type of questions that I might ask:
  - short answers
  - True / False
  - What is the output of a program
  - Find and fix the errors  (also indicate the type of error)
  - Write 2 full programs using nested loops and functions
Midterm #2 material

• From the book:
  – Please note that all Exams are hand-written exams: no books, and no computers during exams!
  – Midterm #2 Readings:
    • Loops and nested loops:
      – Readings: Chapter 5 from Gaddis, chapters 4 from Visual QuickStart book, and chapter 7 from Allen Downey’s book
    • String and String Methods:
      – Readings: Chapter 9 from Gaddis, chapters 6 (Regular expressions not included) from Visual QuickStart book, and chapter 8 from Allen Downey’s book
    • Functions:
      – Chapter 3 and 6 from Gaddis, chapters 5 from Visual QuickStart book
How to study for the exam

Note: Before you begin ... There is an old joke that is recited as follows:

• **Question:** How do you get to Carnegie Hall?
  – **Answer:** Practice, practice, practice!

• The same is true here... I can't emphasize enough

• What to study:
  – Make sure to do all of the required readings

• **Focus on studying lecture notes, class examples, and homework (very important).**

• When, reviewing programs, make sure you do it without looking at the solutions. This is the only way to learn programming (You need to do lots of programs without looking at the solution!)

• Do the sample midterm exam posted on the web (very important). Try to do it without looking at the solution.

• Make sure to see me asap if you have any questions or difficulty understanding any of the material. I would be very happy to help!
What to focus on? Review list

• Concepts to learn for the test.
• Loops
• Nested loops
• String and String methods (built-in functions)
• Functions (built-in functions and user-defined functions):
  • Modules (built-in functions and user-defined functions)
Nested Loops

• How to construct nested loops
• Learn to trace the nested loops variables
• Review all class examples, practice examples and exercises from required books and sample midterm, and also homework for nested loops
Strings

- What is a string?
- How do extract characters from a string
- How do you extract a substring (slicing- one or more characters)
- How many ways can you reverse a string?
- How do you concatenate (join) strings and what operator do you use?
- What loops are useful to use with strings- provide examples for each?
- What are the important string methods that you learned about in class and give an example for each (very important)
- Review all class examples, practice examples and exercises from required books and sample midterm, and also homework for string
Functions

• What is a function?
• What’s the difference between a user-defined function and a built-in function?
  – Provide one example for each?
• What is a module?
  – Give an example?
  – How do you use it?
• What’s the difference between user-defined module and a built-in module?
  Give examples?
• How many different ways can you use import statement? Give examples for each import statement?
• How to create your own module and use in your program
• What is an argument? Give examples
• What is a parameters? Give examples
• How do you return value? How do return multiple values? Give examples
• How to pass values between functions? Give examples
• What’s the difference between local and global variables? Give examples?