CSI32 Topics and homeworks to review in preparation to the Final Exam

Chapter1 Cornerstones of Computing

1) See Chapter Review on pages 25-28
2) Review the following homeworks:
   HW1 (exercises on page 29), HW2 (flowchart to 1.5 or 1.8), HW4 (completely)
3) review *flowcharts* (*activity diagrams*) and *class diagrams*.

Chapter 2 Getting Started in Python

1) See Chapter Review on pages 76 – 82 (excluding *Python Interpreter*, *Using a file for source code*)
2) Review the following homeworks:
   HW5 (completely), HW6 (#2 on page 85, #3, #4)
3) review **list** class (also see the page 42, Figure 2.2 with select list behaviors),
   str class (also see pages 56-57, Figure 2.5 with select str behaviors),
   tuple class, *expression*s (evaluation trees, precedence of operators, boolean expressions),
   bool class

Chapter 3 Getting Started with Graphics

in this chapter we were basically learning the graphics library, with some terminology around.
You need to know how to work with this library.

Chapter 4 Elementary Control Structures

1) See Chapter Review on pages 149 – 150
2) Review the following homeworks:
   HW1 (page 154), HW2 (page 155), HW6 (#1 on page 156)
3) review *for loops*, *nested loops*, *conditional statements*, *list comprehension*

Chapter 5 Additional Control Structures

1) See Chapter Review on pages 192 - 194
2) Review the following homeworks:
   HW2 (page 196), HW7 (completely)
3) review *while loops*, *functions* (return values, parameters, flow of control), *error checking and exceptions* (catching/raising)

Chapter 6 Defining Our Own Classes

1) See Chapter Review on pages 229 – 230
2) Review the following homeworks:
   HW10 and HW11 (completely)
3) be ready to work with classes

Chapter 7 Good Software Practices

1) See Chapter Review on pages 266 – 268
2) Review HW 12
3) be familiar with top-down design and bottom-up implementation, naming conventions, docstrings, encapsulation, error checking

Chapter 8 Input, Output, and Files

1) See Chapter Review on pages 292
2) Review lecture 20 slides
3) Review HW20

Chapter 9 Inheritance

1) See Chapter Review on pages 326-327
2) Review HW 13 (completely)
3) review *inheritance* (when should it be used and when it shoudn't be used), how to define a child class, how to re-define a method in the child class, *augmentation*, *specialization, overriding, polymorphism*, be ready to draw a *hierarchy* of classes.

Chapter 11 Recursion

1) See Chapter Review on pages 388-390
2) Review HW19 (completely)
3) review *functional* and *structural* recursions, be ready to draw a *diagram of recursion unfolding* and folding (complete trace of a recursive function call),
4) be ready to provide a recursive solution to a given problem (review our in-class work with bullseye, pyramid, take a look at page 391 / 11.5,11.6 exercises)

Chapter 12 More Python Containers

1) See Chapter Review on pages 430-432 (excluding *Python's Internal Use of Dictionaries*)
2) Review Lecture 21
3) be ready to work with or answer questions about *lists, tuples, strings, dictionaries, array, sets* and *frozen sets* in Python.

Chapter 15 Event-Driven Programming

1) See Chapter Review on pages 519
2) Review HW15 and HW16
3) Review lecture 15-17 slides
4) know the terminology

Good luck!