CPSC 1301, Computer Science I Homework 06

Chapter 8, *Learning Python*

Readings

Read chapter 8 in the *Learning Python* book.

Discussion Questions

Answer the discussion questions in writing.

1. In Python, what is a *list*?

2. What does it mean to say that Python lists are *mutable*?

3. The book states that "lists contain zero or more references to other objects." What does this mean? What is a *reference*? What is an *object*?

4. At the command prompt, what do the following Python expressions evaluate to:

   - `myList = [1.41421, 1.61803, 2.71828, 3.14168]`
   - `myList[0]`
   - `myList[1]`
   - `myList[2]`
   - `myList[3]`
   - `myList[-1]`
   - `myList[-2]`
   - `myList[-3]`
   - `myList[-4]`
   - `myList[0:]`
   - `myList[1:]`
   - `myList[2:]`
   - `myList[3:]`
   - `myList[4:]`
   - `myList[:4]`
   - `myList[:3]`
   - `myList[:2]`
   - `myList[:1]`
   - `myList[:0]`
   - `myList[0:4]`

5. Do operations that change a list object return a value? If so, what is it? This is a trick question.

6. What is the difference between `sort()` and `sorted()`?

7. In Python, what is a *dictionary*?

8. How are values in a dictionary accessed?

9. Are dictionaries sequences? Are dictionaries mappings? What is the difference between a sequence and a map?

10. The book states that "dictionaries are unordered tables of object references." What does this mean?

11. (Not in book.) What is a *hash function*? What is a *message digest*? What is *SHA256*?

12. List four ways to make a Python dictionary.

13. How do you determine if a dictionary has a particular key?

14. Review the Test Your Knowledge Quiz at the end of the chapter.