CPSC 1301, Computer Science I Homework 03

Chapter 4, *Learning Python*

Readings

Read chapter 4 in the *Learning Python* book.

Discussion Questions

Answer the discussion questions in writing.

1. The book states that "*everything* is an object in a Python script." In a sense, this is the fundamental, core concept of Python. We will spend the entire term exploring what this means. I don't exoect you to know what this means now, but take a wag[1] at what you think this means.

2. A key concept in programming is *structured programming*. The simple idea behind structured programming is that there are three and only three things that a computer program can do. What are those three things? (This course focuses on structured programming.)

3. Table 4-1 contains a list of built in Python types. We will focus mostly on the first seven. What are they?

4. What happens in Python when you run a sequence of characters surrounded by quotation marks, e.g., `'spam'` or `"spam"`?

5. What does it mean to say that Python is *dynamically typed*?

6. In Python, what is a *string*? Why does the book call a string a *sequence*?

7. Another absolutely fundamental concept in Python is the concept of *immutability*. What is an immutable object? What is a mutable object?

8. What is a *method* as that term is used to describe certain functions?

9. What does the Python command `dir` do? Why would you use it?

10. What is a Python *list*? What do you use lists for?

11. What is a Python *dictionary*? What do you use dictionaries for?

12. What is a Python *tuple*? What do you use tuples for?

13. What is a Python *file*? What do you use files for?

14. *Polymorphism* is a key concept in object-oriented programming (OOP). We will not be talking much about polymorphism as we will not be doing OOP in this course, but you still need to have a general understanding of it. What do you think the book means when it says that we code to *interfaces* and not to *types*. As always, wrong answers are accepted for full credit.

15. Review the Test Your Knowledge: Quiz at the end of the chapter. You will see these questions on a quiz sooner or later.

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[1] wild assed guess