

CPSC 1301, Computer Science I Homework 09

Chapters 12 and 13, *Learning Python*

Readings

Read chapters 12 and 13 in the *Learning Python* book.

Discussion Questions

Answer the discussion questions in writing.

1. In simple terms, what does the Python *if* statement do? Give a simple example of an if statement.
2. Most computer languages have a **case** or **switch** statement. Python does not have such a statement. Show how you can mimic such a statement in Python to implement *multiway branching*.
3. This is a more advanced topic that we will cover in detail later, but dictionaries can contain references to functions as values. Can you think of a simple example of how you would use functions in a multiway branch?
4. What are *control flow statements*? There are three kinds of control flow statements in procedural computer languages. What are the three kinds?
5. How does Python detect block boundaries?
6. Why should you not mix tabs and spaces when writing Python?
7. List all the *False* objects in Python. There are only three of them.
8. What is the Python *ternary* statement? How is it used?
9. What does a *while* loop do? What is the general syntax of a while loop?
10. In loop statements, what does **break** do?
11. What does **continue** do?
12. What does **pass** do?
13. The book states that “[t]he **for** loop is a generic iterator in Python: it can step through the items in any ...iterable object.” We will look at iterables in chapter 14, but for now, what do you think that this statement means?
14. What is the general syntax of a **for** loop? Give a simple example.
15. What does the **range()** function do? Read the documentation for **range()** and give an example of its use.
16. What does the **len()** function do? Read the documentation for **len()** and give an example of its use.
17. We have a list of integers names **myList** and we want to add 1 to each item in the list. We try the following code and it does not work. Why does it not work?

```
1      myList = [1, 2, 3, 4, 5]
2      for item in myList: item += 1
3      print(myList) #prints [1, 2, 3, 4, 5], should print [2, 3, 4, 5, 6]
4      print(item) #prints 6
```

18. What does the `enumerate()` function do? Give an example of its use.
19. Review the Test Your Knowledge quizzes at the end of each chapter.