Computer Science — Python — HW #7

Assigned on Wed, 2017-02-15. Due on Tue, 2017-02-21, but nothing to turn in.

1. Read chapter 5 of Think Python, 2nd ed. Continue reading two chapters per week.
2. Consider the following function:

def maxmin(a, b, x):

return max(a, min(b, x))

What will be the output of the following statements? (Try to figure this out before running it in Python.)

1. print(maxmin(0, 10, -5))
2. print(maxmin(0, 10, 0))
3. print(maxmin(0, 10, 5))
4. print(maxmin(0, 10, 10))
5. print(maxmin(0, 10, 15))
6. What would be the output of the following script? (Try to figure this out before running it in Python.)

def print\_half\_word(word):

for i in range(0, len(word)):

if i % 2 == 0:

print(word[i], end='')

print()

print\_half\_word('ions')

print\_half\_word('pulsations')

print\_half\_word('slingshots')

1. What would be the output of the following script? (Try to figure this out before running it in Python.)

s = 'antes'

for i in range(0, len(s)):

for j in range(0, i):

print(s[j], end='')

print()

1. What would be the output of the following script? (Try to figure this out before running it in Python.)

s = 'banana'

for i in range(0, len(s)):

for j in range(i, len(s)):

print(s[j], end='')

print()

1. Write a function called **c2f** that takes one float argument that is a measure of degrees Celsius (a.k.a. Centigrade), and returns the same temperature in degrees Fahrenheit. Note that both Celsius and Fahrenheit are linear scales, and have the following equivalences.

|  |  |  |
| --- | --- | --- |
| Celsius | Fahrenheit | Notes |
| -40 | -40 | School would be *so* closed |
| 0 | 32 | Freezing point of water |
| 100 | 212 | Boiling point of water |

1. Download the PowerPoint deck called "**CS Python Loop Examples**", at <http://www.nyhs.org/Page/661>

Study the examples, up through paren\_balanced.py, but not those after it. (They're roughly in order of increasing complexity.) For each example, become familiar with the script by imagining it running (with various inputs, if that applies). For example:

* Mentally trace what happens when the function **capitalize\_a** is called with the argument 'banana'.
* Mentally trace the function **capitalize\_ends** being called with the argument 'banana'.
* Mentally trace the function **is\_palindrome\_v2** being called with the argument 'revolver'.
* Mentally trace the function **dedupe\_v1** being called with the argument ['A', 'B', 'A', 'B']