In-Class Exercise 1

February 10, 2015

Complete 2 of the 3 parts below. Submit on Blackboard. You are allowed to discuss with classmates, but you should not copy code.

Part 1

Create a function which passed a string will return True if the string is a palindrome (spelt the same forward as backward) and False otherwise.

Hint: Slicing will make this doable in one simple line in the function, but feel free to use a longer approach if it's more clear to you.

Part 2

Create a function which passed integers w, x, y, and z, will return the list of integers divisible by z given by n^y where $w <= n < x$. In other words, starting with all the integers from w to x, take the yth power of each. Then of the result of this, return a list of each of those which is divisible by z.

Note: `a**b` is a^b (e.g. `3**2 == 9`) and `a%b` is a modulo b (e.g. `5%4 == 1`)

Hint: List comprehension can make this doable in one fairly simple line. However, feel free to use a longer approach if it's more clear to you.

Part 3

Create a function which passed an unsorted list of n integers will return the list sorted such that index 0 will hold the smallest number, index n the second smallest, index 1 the third smallest, index $n - 1$ the fourth smallest, index 2 the fifth smallest, etc.

(e.g. given `[5,1,2,3,4,6,7]` returns `[1,3,5,7,6,4,2]`)

Hint: Slicing can make this fairly easy, but feel free to use any approach.