**CS 352 Spring 2018 -- Programming Assignment #1 (suggested solution: FYI)**

1. ***Python Practice (10 points)***
2. Write codes to find maximum of the following lists:

[] [3] [5, 2, 8] [2, 4, 8, 1, 6]

>>>max([]) #error

>>>max([3]) #3

>>>max([5, 2, 8]) #8

>>>max([2, 4, 8, 1, 6]) #8

1. Write codes to create a list [1, 4, 7, 10, 13, 16, 19, …, 199] in three different ways

Method 1: use list factory function and range function

list(range(1, 200, 2)) #results omitted here

Method 2: initialize an empty list, and appending elements to the list one by one

Lst = []

for num in range(1, 200, 2) :

Lst.append(num)

Method 3: use for statement inside the list

[num for num in range(1, 200, 2)]

1. ***Lisp Practice (10 points)***
2. Write codes to find maximum of the lists (convert to Lisp notation) as in above (1).

>(max ‘()) ;error

>(max (car ‘(3))) ;3

>(max (nth 0 ‘(5 2 8)) (nth 1 ‘(5 2 8)) (nth 2 ‘(5 2 8))) ;8

>(setf L ‘(2 4 8 1 6))

>(max (nth 0 L) (nth 1 L) (nth 2 L) (nth 3 L) (nth 4 L)) ;8

1. Write codes to create an empty list first, then adding symbols one by one to get a list of (a b c d e)

(cons ‘a (cons ‘b (cons ‘c (cons ‘d (cons ‘e nil))))) ;(a b c d e)

1. Write codes to create a list of ((a 1) (b 2) (c 3))

(list (list ‘a 1) (list ‘b 2) (list ‘c 3)) ;((a 1) (b 2) (c 3))