COSC 251 Study Guide
Exam #2
Spring 2008

1.) Why is Python called Python?

2.) What kind of typing does Python feature? Define that kind of typing.

3.) List 5 primitive, built-in types in Python.

4.) Give the code to create a loop that will print out every member of a list **mylist** in Python.

5.) Give that same code in LISP. Assume that you are printing only the first level.

6.) Give the code to define a function to print out the factorial of a given number in both Python and LISP.

7.) How do we use a list as a stack in Python? Give the appropriate calls for push, pop and top.

8.) In LISP, is (list 1 2) and (cons 1 2) equivalent? Why or why not?

9.) Give the car/cdr commands to get every atom out of the list (1 2 (3 4 5 (6 7) 8) 9).

10.) What is the fundamental difference between a recycling and a non-recycling function? Give a code example that illustrates this difference.

11.) Give the code (in LISP) to create a function that will take in one parameter, **n**, and create a list of size n.

12.) If I wanted to compare two characters variables, **n** and **m**, and print "less than" if **n** is less than **m**, print "greater than" if **n** is greater than **m**, and print "equal" if **n** is case-insensitive equal to **m**, how would I do this in LISP?

13.) How would I represent the binary version of the decimal number 13 in LISP?

14.) List and give examples of three control structures in LISP.

15.) List and give examples of three control structures in Python.