CGS 4854 – Take Home Exam 1 – Fall 2012. DSP JAVA Workshop. Instructor: Francisco R. Ortega

Name:

Instructions: Either write your answers in scratch paper or modify the word document provided to you. You may consult the web, books and friends. However, make sure you word the answers on your own. The objective of the exam is to verify that you understand some concepts and teach you some other ones (like a homework.) While this workshop is informal, try to do your best.

1) [5] Please described what JIT (Just in time) compilation is and how does it work?

2) [5] What at the differences between java that uses JIT to a scripted languages that is interpreted line by line? Is there a difference?

3) [5] What about the difference between a native compilation: for example C program that compiles to machine language.

4) [5] How does MatLab compiles the .m files?

5) [10] Please give some benefits and some drawbacks of using Java.

6) [5] What is the JAVA API?

7) [5] In Java, a string is said to be immutable. What does this means? Give some examples.

8) [10] Given a collection of ages (ArrayList<int> birthdays) remove anyone from the list that is less than 18.

9) [15] Given a collection of names (ArrayList<String> students) do the the following
   a. If the name ends with a vowel, remove the name.
   b. Else : add a period at the end of the name.
      HINT: http://docs.oracle.com/javase/6/docs/api/java/lang/String.html

10) [15]Implement the method compareTo to sort a collection of payroll. The sorting criteria should be in ascending order. This criteria includes the year of services and the age (sort by services,age.) Assume that the Payroll class has member variables yearOfServices and age to be used inside of the compareTo. For more information, please visit :
    http://docs.oracle.com/javase/1.5.0/docs/api/java/lang/Comparable.html

    NOTE: Remember that if thisObject.x < otherObject.x returns -1 , if equal then 0 and if thisObject.x > otherObject.X = 1.

11) [20]Create an interface named iFly with a method void flyd(). Create a class that implements iFly. Just print "flying" in the method using System.out.println.

12) [20]Extra Credit: Find out how to use JOptionPane.showMessageDialog and JOptionPane.inputMessageDialog. Also find out about bufferedwriter and bufferedreader.