CS 102 – Computing and Algorithms II

Homework 1

1) (10 points) Follow the instructions for Inheritance lab.

2) (10 points) Follow the instructions for interface lab.

3) (20 points) Write a class that encapsulating the concept of daily temperatures of a week. Write the following methods:

a. A constructor accepting an array of seven temperatures as a parameter.
b. Accessor, mutator, toString, and equals methods.
c. A method returning how many temperatures were below freezing.
d. A method returning an array of temperatures above 100 degrees.
e. A method returning the largest change in temperature between any two consecutive days.
f. A method returning an array of daily temperatures, sorted in descending order.
g. Write a client class to test all the methods in your class.

Style

Use white space (Indentation, blank lines) to show the program structure. A meaningful class name is an important part of the style. If should describe the purpose of the class. A meaningful name will be supplied as part of the design. Likewise, all variable and constant names will be meaningful and will follow naming conventions.

On top of each program should have the following comments:

```
/*
 * Name:
 * Date:
 * Question number:
 * Description:
*/
```

Deliverables

You will create a .java file for each of the questions and compressed them all in a zip file with your lastname and homework number (Lastname_HW1) and submit the zip file on Blackboard before the due date.

Grading

The homework will be worth 40 points. Each question itself will be graded on 10 points. If your program does not compile, the grade for that question will be 0. If your program compiles but does not produce the correct output, the score will be at most 5 points, depending on how close the solution is to being correct.

No program will be accepted after the due date and it will be graded 0.

This is an individual assignment. Working together on a homework assignment is not permitted. Having someone not in the course write the program for you is not permitted. If another student asks for help, the most assistance you should offer is to aid him/her in the discovery of the error. You should not help correct the error. It is also your responsibility to ensure that no one else turns in your work as his or her own. All suspected cases of academic dishonesty would be handled in strict accordance with department and university policy.