CS 341: Advanced Data Structures **Due: January 26, 2009**
Homework #1

Programming Problem

Purpose:

To practice defining and using Java classes and the concepts of inheritance and aggregation.

Description:

Your job is to design and implement some classes to use for an online auction site. You must design the following classes:

- User class: Describes and manipulates user information. You must track the following information about a user:
  - username
  - realName
  - password
  - email

  The User class should have a default constructor, as well as one accepting all parameters. It should also include accessor (getter) and mutator (setter) methods for all member variables.
  By default, a user is able to buy products only.

- Item: Describes a single item being sold. An item object keeps track of the current high bid for that item in addition to information about the object itself. You must track the following information about an item:
  - name
  - description
  - highBid
  - buyNowPrice

  The User class should have a default constructor, as well as one accepting all parameters.
  In addition, this class contains functions for retrieving information about the item.

- Seller class: Seller is a specialization (subclass) of user. You should implement it as such. In addition to all user attributes, sellers also have:
  - preferredPaymentMethod
  - auctionStoreName

  Sellers can have up to ten items for sale at one time.

A test file will be posted on the blog that you should be able to run on your program. This means that the names for your classes and methods need to match what you see in the tests. In addition, you should run additional tests on your own.

For this assignment, you should submit your work electronically in an email to nanderson@winona.edu with the subject line:

CS341 HW1 submission Your Name

If you subject line does not look identical to what is above (with Your Name replace by your actual name) you may not receive credit as this is automatically filtered into the correct homework location by subject. You should submit:

- A UML class diagram of your system.
- .java and .class files for the three classes above along with any additional test classes you created
- Output showing your code compiling and results from executing (1) the test case file given by your instructor and (2) your test cases.

You will be graded on the quality of your code, documentation and test cases. To receive full credit, you should meet the requirements listed, demonstrate this through your test cases, and all code should be well formatted and commented.