Lab 10

Exercise 1:
Create a class called Invoice that a hardware store might use to represent an invoice for an item sold at the store. An Invoice should include four pieces of information as private instance variables:
1. Part number (type String)
2. Part description (type String)
3. Quantity of the item being purchased (type int)
4. Price per item (double).
Your class should have the following:
- Provide a set and a get method for each instance variable.
- Provide a Constructor with four parameter variable.
- Provide a method named getInvoiceAmount that calculates the invoice amount (i.e., multiplies the quantity by the price per item), then returns the amount as a double value. If the quantity is not positive, it should be set to 0. If the price per item is not positive, it should be set to 0.0.
Write a test application named InvoiceTest that demonstrates class Invoice’s capabilities. Your program should keep asking the user to calculate an invoice by printing a menu that has two choices: calculate a new Invoice, and exit. Work this program for three invoices.

Exercise 2.
Define a class Date in a file called Date.java with three attributes: day, month and year (all of type int private attributes).
· Define the following public methods for the class Date:
  1) Methods (setters, getters) allowing to access to attributes.
  2) A method increment() that adds one day to the current date.
  3) A method decrement() that subtracts one day from the current date.
  4) Write a method display() that prints the date to the screen in a suitable form.
· Write a main program with a class TestDate.java where you test the class Date.
· Declare two objects d1 and d2 of the class Date.
· Set the date of d1 to 30/12/2012, and d2 to 1/1/2012.
· Increment the first date object by one day.
· Decrement the second date object by one day.
· Display each of the two date objects.

(Hint: to avoid all the difficulties with date calculations assume that each month has exactly 30 days).