Homework #1

In this homework we will practice some basic OOP concepts. We will create a position objects, a portfolio object, and an iterator.

When you hold a security we call it position. Position describe the holding. In that respect, position will describe what instrument you hold, e.g. IBM. It will have quantity, 100 shares, -100 shares. So in our position we can have two fields say name and quantity.

Portfolio is a bag of positions and some update rule. For example, portfolio will have two positions, one position is 100 shares of IBM and another is -200 shares of MSFT. The process in the portfolio level is as follows. Suppose you bought a 100 shares of IBM. You tell your portfolio object this information and it will create a new position object. If you than sold a 100 shares of IBM, you tell this to your portfolio and it will "update" the already existing IBM position with the new quantity. Finally, if the overall quantity in the position is zero, it will remove it from the bag of position.

In this homework you should implement the following interfaces:

public interface Position{

public int getQuantity();

public String getSymbol();

}

public interface Portfolio{

public void newTrade(String symbol, int quantity);

public PositionIter getPositionIter();

}

public interface PositionIter{

/\*\* This method returns the next Position in the bag and null if we already iterated over all the position \*\*/

public Position getNextPosition();

}

Note that PositionIter is “like” an iterator for the positions in the bag.

Please note that 25% of your grade will be based on adequate documentation. Another 35% of your grade will be about providing adequate testing via unit tests.