II. **Part II:** After receiving the above program from you, the customer is very happy with your program. He wants to extend the feature of the program to support managing the stockholder income.

- The tax of a stockholder is calculated using a different tax rate: stockTaxRate
- **Make sure to use observer design pattern to avoid code duplication (part I and II)** (Hints: you may want to create two base classes: **observer** and **subject** classes in addition to the below. You may want to register each observer with the subject in the observer's constructor)
- Add the following to the previous program:

1. Create a class StockTaxRateTable:
    - Contains the following data members with initial values:
        - stockTaxRate = 20%
    - Contains the following methods:
        - void setStockTaxRate (double newStockTaxRate):
            - This method sets a new stock tax rate
            - Print out all objects that affect by stockTaxRate, for ex: all stockholders (see below)
2. Create the following class:
    - StockHolder
        - Inherits from Person
        - Contains members:
            - incomeFromStock (double)
        - Contains methods
            - double getNetIncome(): returns incomeFromStock - incomeFromStock * stockTaxRate
            - overload operator << to printout the net income of this stockholder
3. Add to the main function the following menu:
    - 3-Create a stock holder
        - Allow user to input incomeFromStock
        - Create a new object StockHolder
        - Printout the new stock holder (using the overloaded << method)
    - 6 - Change stockTaxRate:
        - Allow user to input the new stockTaxRate
        - Call the method setStockTaxRate of StockTaxRateTable class