**Exercise 7:  
  
Implementing the Observer Pattern:**

MobileApp.java:

**Package** observer;

**public** **class** MobileApp **implements** Observer {

**private** String name;

**public** MobileApp(String name)

{

**this**.name=name;

}

**public** **void** update(**float** price)

{

System.***out***.println(name+" received stock price update: ₹"+price);

}

}

Observer.java:

**package** observer;

**public** **interface** Observer {

**void** update(**float** price);

}

Stock.java:

**package** observer;

**public** **interface** Stock {

**void** registerObserver(Observer o);

**void** removeObserver(Observer o);

**void** notifyObservers();

}

StockMarket.java:

**package** observer;

**import** java.util.ArrayList;

**import** java.util.List;

**public** **class** StockMarket **implements** Stock {

**private** List<Observer> observers = **new** ArrayList<>();

**private** **float** stockPrice;

**public** **void** registerObserver(Observer o) {

observers.add(o);

}

**public** **void** removeObserver(Observer o) {

observers.remove(o);

}

**public** **void** notifyObservers() {

**for** (Observer o : observers) {

o.update(stockPrice);

}

}

**public** **void** setStockPrice(**float** price) {

**this**.stockPrice = price;

notifyObservers();

}

}

WebApp.java:

**package** observer;

**public** **class** WebApp **implements** Observer{

**private** String name;

**public** WebApp(String name)

{

**this**.name=name;

}

**public** **void** update(**float** price)

{

System.***out***.println(name+" received stock proce update: ₹"+price);

}

}

ObserverTest.java:

**package** observer;

**public** **class** ObserverTest {

**public** **static** **void** main(String[] args) {

StockMarket stockMarket = **new** StockMarket();

Observer mobile = **new** MobileApp("MobileApp 1");

Observer web = **new** WebApp("WebApp 1");

stockMarket.registerObserver(mobile);

stockMarket.registerObserver(web);

System.***out***.println("Setting stock price to ₹150.50...");

stockMarket.setStockPrice(150.50f);

System.***out***.println("Setting stock price to ₹173.80...");

stockMarket.setStockPrice(173.80f);

}

}

**Output:**

