//observer pattern

//need many objects receive update

//loose coupling

Public class StockGrabber implements Subject {

Private ArrayList<Observer> observers;

Private double ibmPrice;

Private double aaplPrice;

Provate googPrice;

Public StockGrabber(){

Observers=new ArrayList<Observer>();

}

Public void register(Observer newObserver){

Observers.add(newObserver);

}

Public void unregister(Observer deleteObserver){

Int observerIndex=observers.indexOf(deleteObserver);

Sys.out.print(“Observer: ”+(observerIndex+1)+” deleted”);

//update the list

Observers.remove(observerIndex);

}

Public void notifyObserver(){

For(Observer observer:observers){

Observer.update(ibmPrice, aaplPrice, googPrice);

}

}

Public void setIBMPrice(double newIBMPrice){

This.ibmPrice = newIBMPrice;

notifyObserver();

}

Public void setAAPLPrice(double newAAPLPrice){

This.aaplPrice=newAAPLPrice;

NotifyObserver();

}

Public void setGOOGPrice(double newGOOGPrice){

This.googPrice= newGOOGPrice;

notifyObserver();

}

}

Public interface Subject {

Public void register (Observer o);

Public void unregister (Observer o);

Public void notifyObserver ();

}

Public interface Observer{

Public void update(double ibmPrice, double aaplePrice, double googPrice);

}

Public class StockObserver implements Observer{

Private double ibmPrice;

Private double aaplPrice;

Price double googlPrice;

Private static int observerIDTracker = 0;

Private int observerID;

//make refferences

Pivate Subject stockGrabber;

Public StackGrabber(Subject stockGrabber){

This.stockGrabber = stockGrabber;

This.observerID = ++observerIDTracker;

Sys.out.print(“New Observer: ” +this.observerID);

stockGrabber.register(this);

}

Private

@Override

Public void update(double ibmPrice, double aaplPrice, double googPrice){

This.ibmPrice=ibmPrice;

This.aaplPrice = aaplPrice;

This.googPrice = googPrice;

pritnThePrices();

}

Public void printThePrices(){

Sys.out.print(observerID+ “\nIBM: ”+ibmPrice+”\nAAPL: ”+aaplPrice+”\nGOOG: ”+googPrice);

}

}

Public class GrabStocks{

Public static void main(String[] args){

StockGrabber stockGrabber = new StockGrabber();

StockObserver observer1 = new StockObserver(stockGrabber);

stockGrabber.setIBMPrice(197.00);

stockGrabber.setAAPLPrice(677.60);

stockGrabber.setGOOGPrice(676.40);

StockObserver observer2 = new StackObserver(stackGrabber);

stockGrabber.setIBMPrice(197.00);

stockGrabber.setAAPLPrice(677.60);

stockGrabber.setGOOGPrice(676.40);

//deleting

stockGrabber.unregister(observer 1);

stockGrabber.setGOOGPrice(676.40);

stockGrabber.setIBMPrice(197.00);

stockGrabber.setAAPLPrice(677.60);

}

}