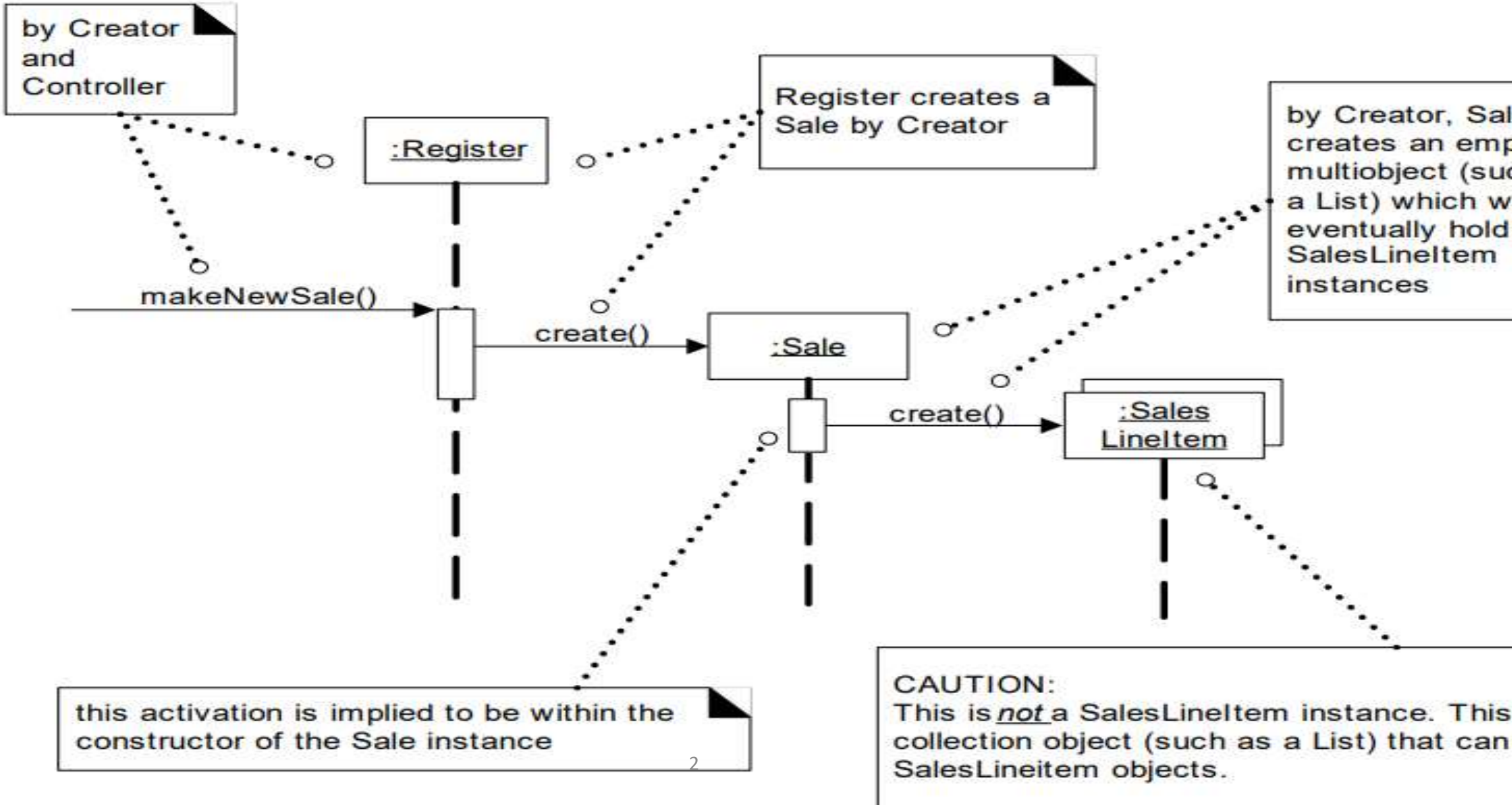
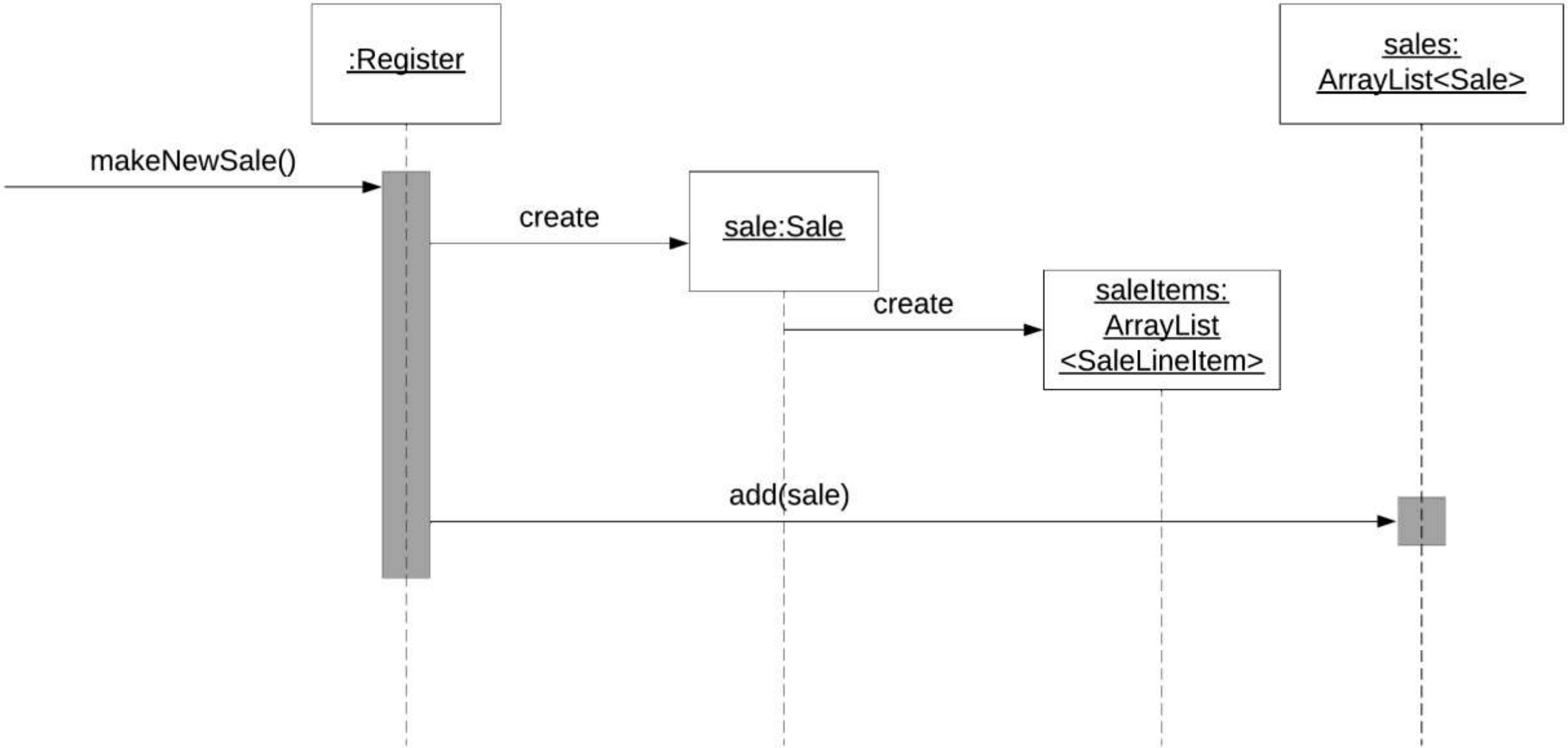
SD FOR MakeNewSale

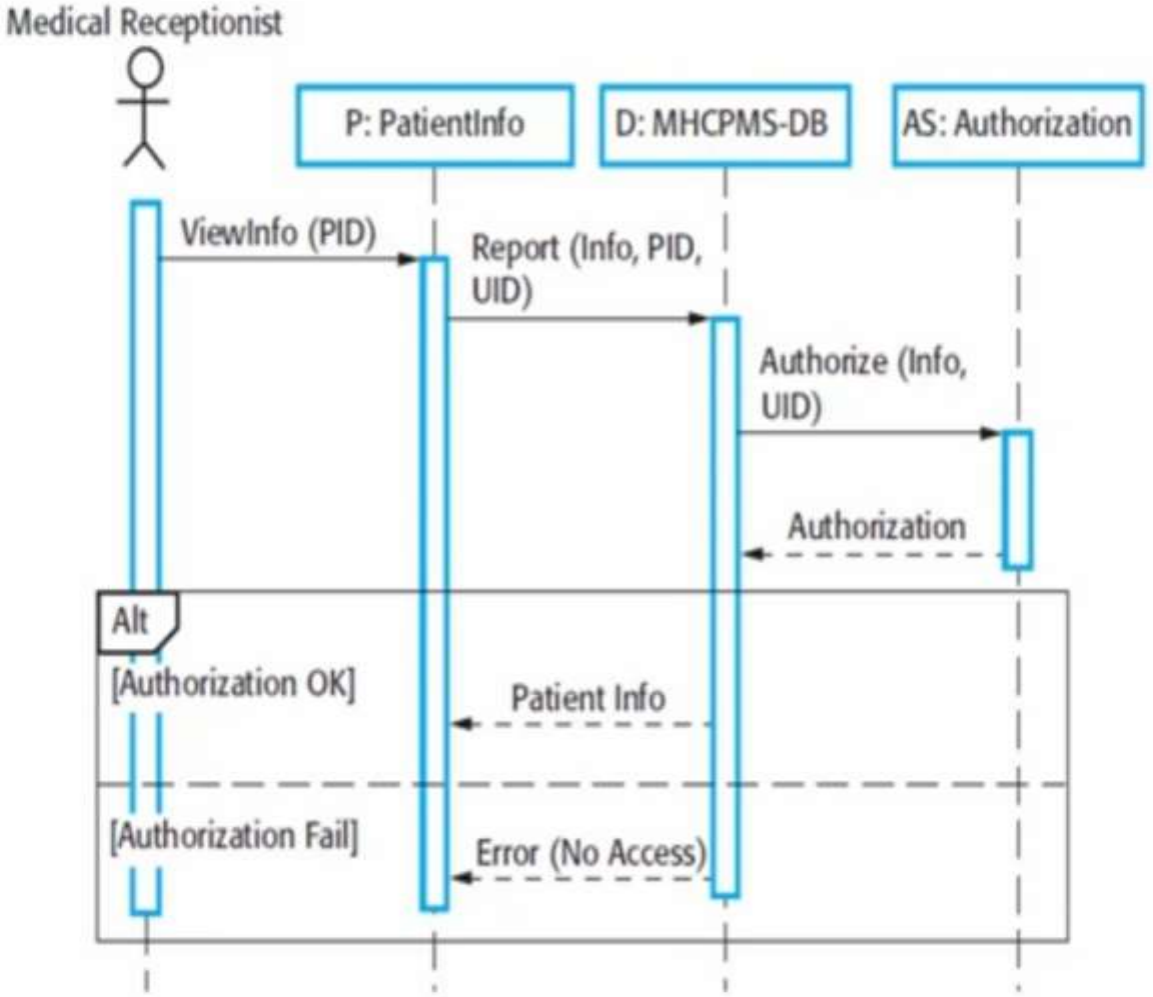



:Register
sales:
ArrayList<Sale>
makeNewSale()
create
sale:Sale
create
saleItems:
ArrayList
<SaleLineItem>
add(sale)

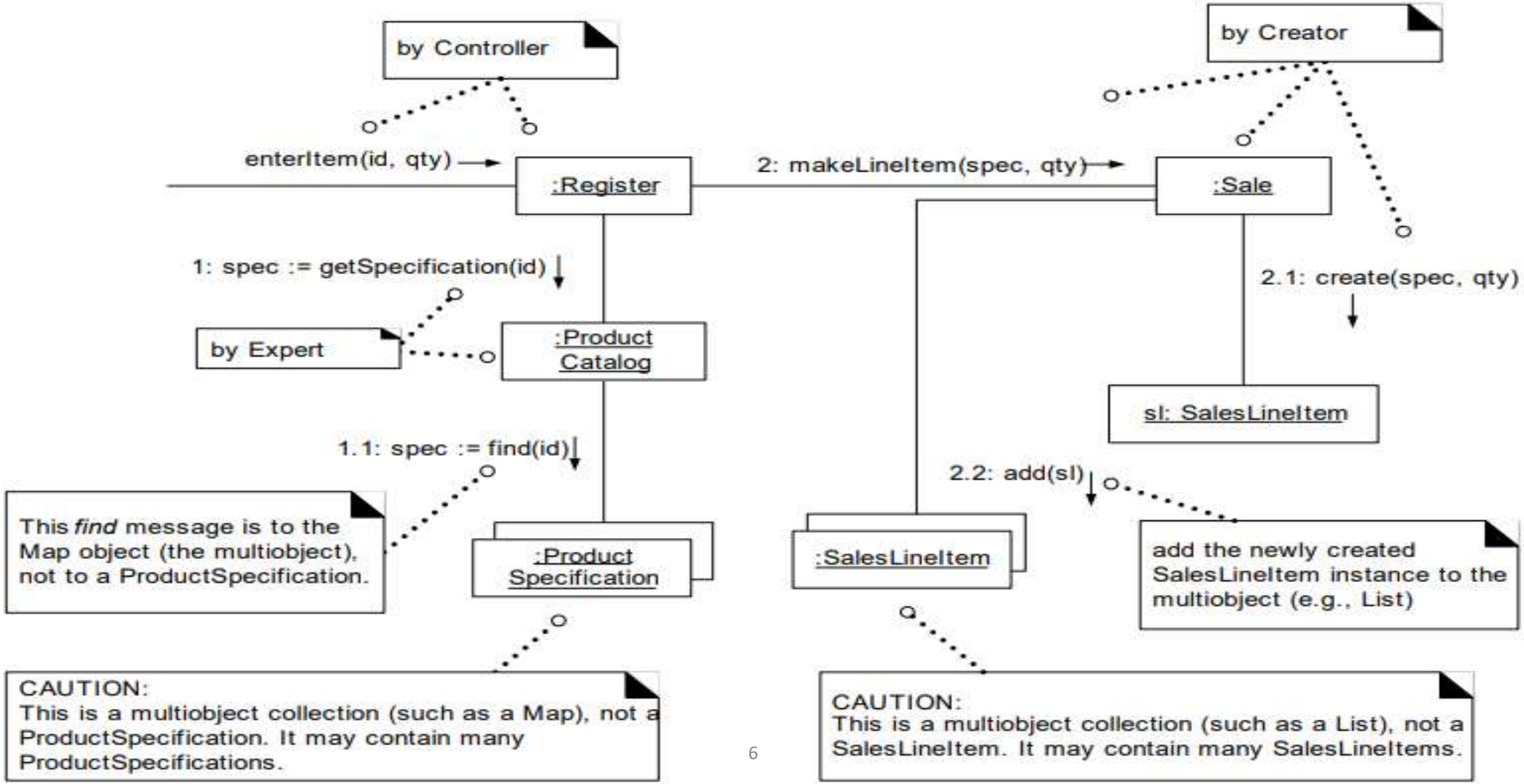
Code for SD

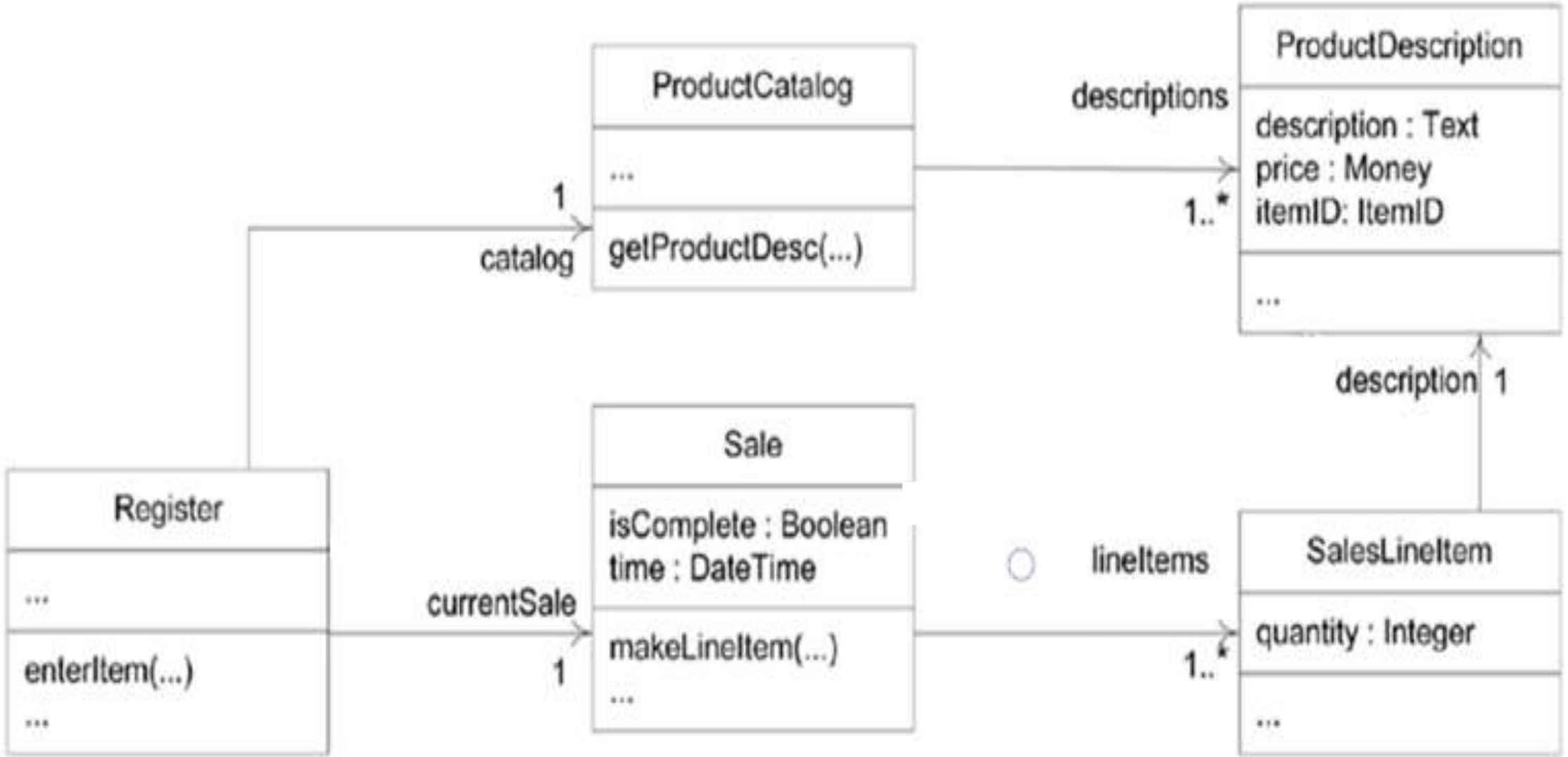
```
class Register{
    private ArrayList<Sale> sales;
    public Register(){
        sales=new ArrayList<Sale>();
    }
    public void MakeNewSale(){
        Sale sale=new Sale();
        sales.add(sale);
    }
}
class Sale{
     private ArrayList<SaleLineItems> saleItems;
     public Sale(){
         saleItems=new ArrayList<SaleLineItems>();
     }
}
class SaleLineItem{
}
```

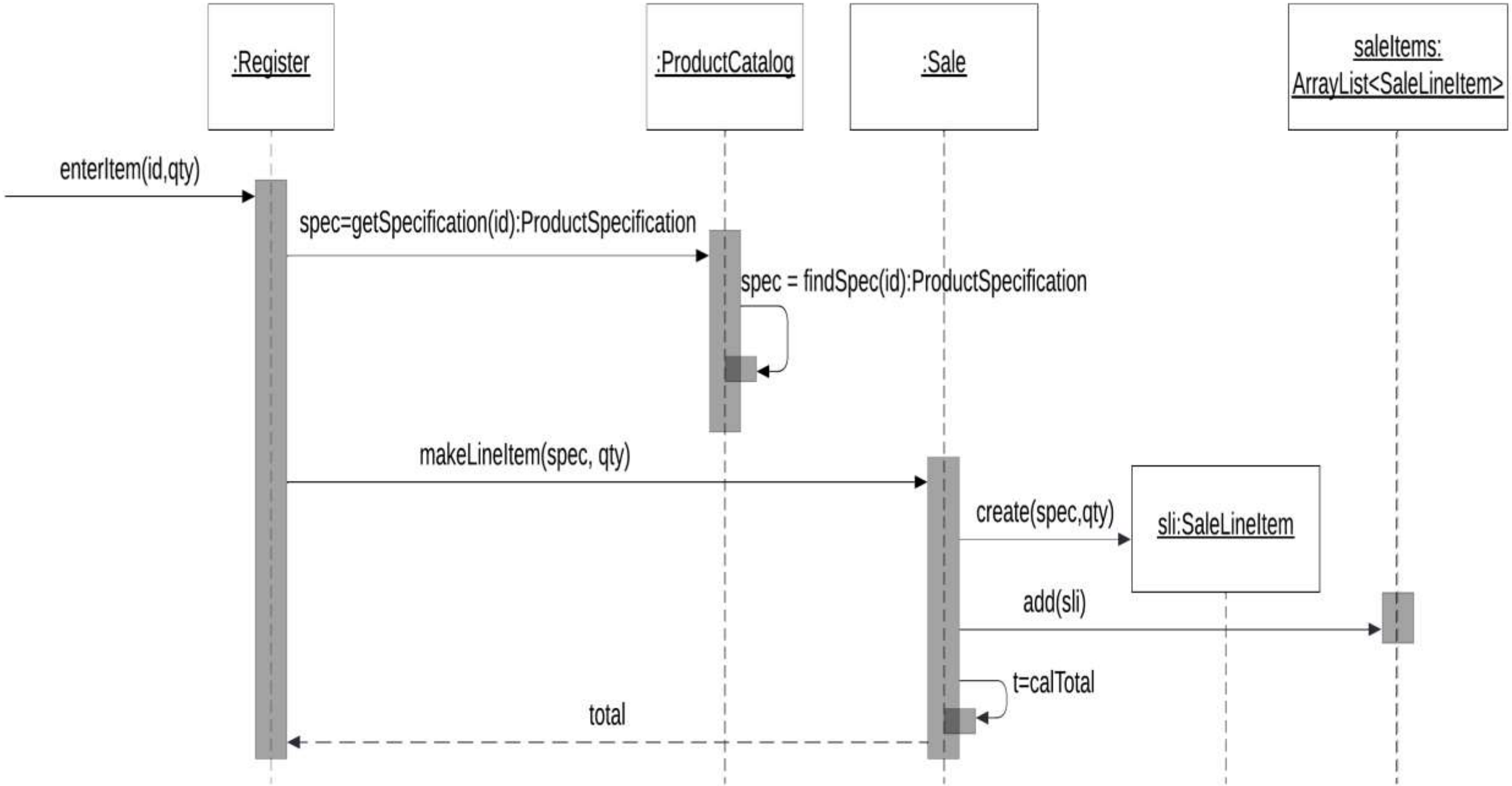
Sequence diagram for View patient information



EnterItem(id, qty)




ProductCatalog
...
getProductDesc(...)
1
catalog
descriptions
1..*
ProductDescription
description : Text
price : Money
itemID: ItemID
...
description
1
Register
...
enterItem(...)
...
currentSale
1
Sale
isComplete : Boolean
time : DateTime
makeLineItem(...)
...
lineItems
1..*
SalesLineItem
quantity : Integer
...


:Register
:ProductCatalog
:Sale
saleItems:
ArrayList<SaleLineItem>
enterItem(id,qty)
spec=getSpecification(id):ProductSpecification
spec = findSpec(id):ProductSpecification
makeLineItem(spec, qty)
create(spec,qty)
sli:SaleLineItem
add(sli)
t=calTotal
total

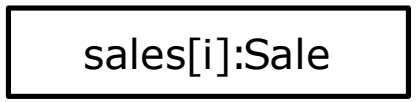
Common Notations for UML Interaction Diagrams

Java Code:

```
Sale s1 = …;
```

Java Code:

```
ArrayList<Sale> sales = …;
```



Java Code:

```
ArrayList<Sale> sales = …;
Sale sale = sales.get(i);
```

enterItem(id, qty)

```
class Register{
   private ArrayList<Sale> sales;
   private ProductCatalog catalog;
   private Sale currSale; //set after makeNewsale
   public Register(ProductCatalog cat){
       sales=new ArrayList<Sale>();
       catalog=cat;
   }
   //....other functions here
   public void enterItem(int id, int qty){ //can be improved further
       Product Specification spec= catalog.getSpecification(id);
       currSale.makeLineItem(spec,qty);
   }
}
```

enterItem(id, qty)

```
class ProductCatalog{
    private ArrayList<ProductSpecification> products;
    public ProductCatalog(){
        products=new ArrayList<ProductSpecification>();
    }
    public ProductSpecification find(int id){
        for(ProductSpecification ps:products){
            if(ps.getID()==id)
            {
                return ps;
            }
        }
    }
    public ProductSpecification getSpecification(int id){
        ProductSpecification spec=find(id);
        return spec;

    }
```

```
class Sale{
    private ArrayList<SaleLineItems> saleItems;
    public Sale(){
        saleItems=new ArrayList<SaleLineItems>();
    }
    public double makeLineItem(ProductSpecification ps, int qty){
        SaleLineItem sli=new SaleLineItem(ps,qty);
        saleItems.add(sli);
        double t=calTotal();
        return t;
    }
    public double calTotal(){
        //calculates total of all saleitems
    }
}
class SaleLineItem{
    private ProductSpecification prodSpec;
    private int quantity;
    public SaleLineItem(ProductSpecification ps, int qty){
        prodSpec=ps;
        quantity=qty;
    }
```

```java
public class Main {
    public static void main(String[] args) {
        // Create a new register
        Register register = new Register();

        // Enter some items into the register
        register.enterItem(123, 1);
        register.enterItem(456, 2);

        // Calculate the total price
        double total = register.calTotal();

        // Print the total price
        System.out.println("Total: $" + total);
    }
}
```

- Title: Register Sale Sequence Diagram Register -> Catalog: Initialize with Catalog Register -> Sale: StartSale() Activate Sale Register -> Sale: AddLineItem(itemName, quantity) Activate Sale Note right: Sale delegates item lookup to Catalog Sale --> Catalog: GetItemPrice(itemName) Activate Catalog Catalog --> Sale: Price Deactivate Catalog Sale <-- Catalog: Price Register -> Sale: EndSale() Activate Sale Sale -> Sale: CalculateTotal() Activate Sale Note right: Sale calculates the total Sale -> Sale: PrintReceipt() Activate Sale Note right: Sale prints the receipt