

Java Fundamentals

Section 7: PART-2:- Creating an Inventory Project

PRODUCT CLASS:

```
package inventory;
```

```
public class Product {
```

```
    private int itemNumber;
```

```
    private String name;
```

```
    private int quantity;
```

```
    private double price;
```

```
    private boolean isActive;
```

```
    // Constructor
```

```
    public Product(int itemNumber, String name, int quantity, double price) {
```

```
        this.itemNumber = itemNumber;
```

```
        this.name = name;
```

```
        this.quantity = quantity;
```

```
        this.price = price;
```

```
        this.isActive = true; // default status
```

```
    }
```

```
    // Getters and Setters
```

```
    public int getItemNumber() { return itemNumber; }
```

```
    public void setItemNumber(int itemNumber) { this.itemNumber = itemNumber; }
```

```
public String getName() { return name; }  
public void setName(String name) { this.name = name; }
```

```
public int getQuantity() { return quantity; }  
public void setQuantity(int quantity) { this.quantity = quantity; }
```

```
public double getPrice() { return price; }  
public void setPrice(double price) { this.price = price; }
```

```
public boolean isActive() { return isActive; }  
public void setActive(boolean isActive) { this.isActive = isActive; }
```

```
// Method to calculate stock value  
public double calculateStockValue() {  
    return quantity * price;  
}
```

```
@Override  
public String toString() {  
    return String.format("Item Number : %d\nName : %s\nQuantity in stock: %d\nPrice :  
%.2f\nStock Value : %.2f\nProduct Status : %s",  
        itemNumber, name, quantity, price, calculateStockValue(), isActive ? "Active" :  
        "Discontinued");  
}
```

```
Enter the number of products you would like to add
Enter 0 (zero) if you do not wish to add products
5
Enter the type of product (CD/DVD):
CD
Enter item number:
1
Enter product name:
Dreams we never lost
Enter quantity in stock:
50
Enter price:
7.99
Enter artist:
Tidelines
Enter number of songs:
14
Enter label:
Tide Lines Music

Enter the type of product (CD/DVD):
DVD
Enter item number:
2
Enter product name:
Daredevil
Enter quantity in stock:
30
Enter price:
8.99
Enter movie length (minutes):
99
```

DVD CLASS:

package inventory;

```
public class DVD extends Product {
```

```
private int length; // in minutes

private int ageRating;

private String filmStudio;


// Constructor

public DVD(int itemNumber, String name, int quantity, double price, int length, int
ageRating, String filmStudio) {

    super(itemNumber, name, quantity, price);

    this.length = length;

    this.ageRating = ageRating;

    this.filmStudio = filmStudio;
}


// Getters and Setters

public int getLength() { return length; }

public void setLength(int length) { this.length = length; }


public int getAgeRating() { return ageRating; }

public void setAgeRating(int ageRating) { this.ageRating = ageRating; }


public String getFilmStudio() { return filmStudio; }

public void setFilmStudio(String filmStudio) { this.filmStudio = filmStudio; }


// Overriding calculateStockValue with 5% restocking fee

@Override

public double calculateStockValue() {

    return super.calculateStockValue() * 1.05; // 5% restocking fee
```

```

    }

    @Override

    public String toString() {

        return String.format("Item Number : %d\nName : %s\nMovie Length : %d\nAge Rating : %d\nFilm Studio : %s\n%s",

            getItemNumber(), getName(), length, ageRating, filmStudio, super.toString());

    }

}

```

```

Enter the type of product (CD/DVD):
DVD
Enter item number:
1
Enter product name:
Daredevil
Enter quantity in stock:
50
Enter price:
8.99
Enter movie length (minutes):
99
Enter age rating:
15
Enter film studio:
20th Century Fox

Item Number : 1
Name :

```

CD CLASS:

```
package inventory;
```

```
public class CD extends Product {
```

```

private String artist;

private int numberOfSongs;

private String label;


// Constructor

public CD(int itemNumber, String name, int quantity, double price, String artist, int
numberOfSongs, String label) {

    super(itemNumber, name, quantity, price);

    this.artist = artist;

    this.numberOfSongs = numberOfSongs;

    this.label = label;
}


// Getters and Setters

public String getArtist() { return artist; }

public void setArtist(String artist) { this.artist = artist; }


public int getNumberOfSongs() { return numberOfSongs; }

public void setNumberOfSongs(int numberOfSongs) { this.numberOfSongs =
numberOfSongs; }


public String getLabel() { return label; }

public void setLabel(String label) { this.label = label; }


@Override

public String toString() {

    return String.format("Item Number : %d\nName : %s\nArtist : %s\nSongs on Album :
%d\nRecord label : %s\n%s",

```

```
        getItemNumber(), getName(), artist, numberOfSongs, label, super.toString());  
    }  
}
```

Enter the type of product (CD/DVD):

CD

Enter item number:

2

Enter product name:

Dreams we never lost

Enter quantity in stock:

50

Enter price:

7.99

Enter artist:

Tidelines

Enter number of songs:

14

Enter label:

Tide Lines Music

Item Number : 2

Name : Dreams we never lost

Artist : Tidelines

Songs on Album : 14

Record label : Tide Lines Music

Quantity in stock: 50

Price : 7.99

Stock Value : 399.50

Product Status : Active