Java Fundamentals
SECTION 7:PART-2
CREATING AN INVENTORY PROJECT

```java
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");
}
}
```

OUTPUT

```
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
```

```java
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());
}
}
```

OUTPUT

```
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:

```java
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
```

```java
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());
}
}
```
OUTPUT

```
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
```