

JAVA FUNDAMENTALS SECTION 4: Creating an Inventory Project

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Topics:

- **Data types**
- **Creating classes/objects**
- **Instance variables/fields**
- **Constructors**
- **Methods(getters/accessors, setters/mutators)**
- **Overloading**
- **Main/tester classes**
- **toString()**

Attribute	Sample Data
Names of the product	Chairs, Ice creams, Paper Plates, Refreshments, Return Gifts
Price	2890.76, 9006.54, 1500.00, 4567.86, 10000.00
Number of units in the stock	150, 500, 200, 600, 300
Item number	19156, 19157, 19158, 19159, 19160

Attribute	Sample Data	Data Type
Name of the product	Chairs, Ice creams, Paper Plates, Refreshments, Return Gifts	String
Price	2890.76, 9006.54, 1500.00, 4567.86, 10000.00	double
Number of units in stock	150, 500, 200, 600, 300	int
Item number	19156, 19157, 19158, 19159, 19160	int

MERCHANDISE INVENTORY SYSTEM

PROBLEM STATEMENT:

Design a Merchandise Inventory System that allows users to create and maintain merchandise items. Each merchandise item will have a unique catalog ID, description, quantity of stock, and list price. The system shall display information for each of the merchandise items.

REQUIREMENTS:

1. A class Merchandise with the following attributes:

- catalogID—A unique integer-based identifier for each merchandise
- description—A string-based, meaningful description of the merchandise item
- stockLevel—An integer representing the current stock level of the merchandise item
- listPrice—A double representing the list price for the merchandise item.

2. The system shall have a constructor which will initialize these attributes with default values.
3. Getter and setter methods shall be available within the system for each attribute.
4. The system shall support a toString method returning a string representation of the Merchandise Item, including its catalog ID, description, stock level, and list price.
5. The system shall have a main method where multiple merchandise items would be created and their details will be displayed.

CODE:

```
public class Merchandise {  
  
    private int catalogId;  
  
    private String description;  
  
    private int stockLevel;  
  
    private double listPrice;  
  
  
    public Merchandise() {  
  
        this.catalogId = 0;  
  
        this.description = "";  
  
        this.stockLevel = 0;  
  
        this.listPrice = 0.0;  
  
    }  
  
  
    public Merchandise(int catalogId, String description, int stockLevel, double listPrice) {  
  
        this.catalogId = catalogId;  
  
        this.description = description;  
  
        this.stockLevel = stockLevel;  
  
        this.listPrice = listPrice;  
  
    }  
  
  
    public int getCatalogId() {  
  
        return catalogId;  
  
    }  
}
```

```
public void setCatalogId(int catalogId) {  
    this.catalogId = catalogId;  
}
```

```
public String getDescription() {  
    return description;  
}
```

```
public void setDescription(String description) {  
    this.description = description;  
}
```

```
public int getStockLevel() {  
    return stockLevel;  
}
```

```
public void setStockLevel(int stockLevel) {  
    this.stockLevel = stockLevel;  
}
```

```
public double getListPrice() {  
    return listPrice;  
}
```

```
public void setListPrice(double listPrice) {  
    this.listPrice = listPrice;  
}
```

```
public String toString() {
```

```

return "Catalog ID: " + catalogId + "\n" +

    "Description: " + description + "\n" +

    "Stock Level: " + stockLevel + "\n" +

    "List Price: " + String.format("%.2f", listPrice)+" rs.";

}

public static void main(String[] args) {

    Merchandise item1 = new Merchandise(19156, "CHAIRS", 150, 2890.76);

    Merchandise item2 = new Merchandise(19157, "ICECREAMS", 500, 9006.54);

    Merchandise item3 = new Merchandise(19158, "PAPER PLATES", 200, 1500.00);

    Merchandise item4 = new Merchandise(19159, "REFRESHMENTS", 600, 4567.86);

    Merchandise item5 = new Merchandise(19160, "RETURN GIFTS", 300, 10000.00);


    System.out.println(item1.toString());

    System.out.println(item2.toString());

    System.out.println(item3.toString());

    System.out.println(item4.toString());

    System.out.println(item5.toString());

}
}

```

OUTPUT:

```
C:\Users\rishi>cd downloads
```

```
C:\Users\rishi\Downloads>javac Merchandise.java
```

```
C:\Users\rishi\Downloads>java Merchandise
```

```
Catalog ID: 19156
```

```
Description: CHAIRS
```

```
Stock Level: 150
```

```
List Price: 2890.76 rs.
```

```
Catalog ID: 19157
```

```
Description: ICECREAMS
```

```
Stock Level: 500
```

```
List Price: 9006.54 rs.
```

```
Catalog ID: 19158
```

```
Description: PAPER PLATES
```

```
Stock Level: 200
```

```
List Price: 1500.00 rs.
```

```
Catalog ID: 19159
```

```
Description: REFRESHMENTS
```

```
Stock Level: 600
```

```
List Price: 4567.86 rs.
```

```
Catalog ID: 19160
```

```
Description: RETURN GIFTS
```

```
Stock Level: 300
```

```
List Price: 10000.00 rs.
```