

WEEK 4

```
import java.util.Scanner;

class Book {
    private String name;
    private String author;
    private double price;
    private int num_page;

    // Constructor to initialize the members
    public Book(String name, String author, double price, int num_page) {
        this.name = name;
        this.author = author;
        this.price = price;
        this.num_page = num_page;
    }

    // Getter for name
    public String getName() {
        return name;
    }

    // Setter for name
    public void setName(String name) {
        this.name = name;
    }
}
```

```
// Getter for author
public String getAuthor() {
    return author;
}

// Setter for author
public void setAuthor(String author) {
    this.author = author;
}

// Getter for price
public double getPrice() {
    return price;
}

// Setter for price
public void setPrice(double price) {
    this.price = price;
}

// Getter for num_page
public int getNumPage() {
    return num_page;
}
```

```
// Setter for num_page
public void setNumPage(int num_page) {
    this.num_page = num_page;
}

// Method to display book details
public void displayDetails() {
    System.out.println("Book Name: " + name);
    System.out.println("Author: " + author);
    System.out.println("Price: " + price);
    System.out.println("Number of Pages: " + num_page);
}

public class BookStore {
    Run | Debug | Run main | Debug main
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print(s: "Enter number of books: ");
        int n = sc.nextInt();
        sc.nextLine(); // consume newline

        Book[] books = new Book[n];

        for (int i = 0; i < n; i++) {
            System.out.println("Enter details for book " + (i + 1));
            System.out.print(s: "Name: ");
            String name = sc.nextLine();
            System.out.print(s: "Author: ");
            String author = sc.nextLine();
            System.out.print(s: "Price: ");
            double price = sc.nextDouble();
            System.out.print(s: "Number of pages: ");
            int numPage = sc.nextInt();
            sc.nextLine(); // consume newline

            books[i] = new Book(name, author, price, numPage);
        }

        // Display all book details
        for (Book book : books) {
            book.displayDetails();
            System.out.println();
        }
    }
}
```

```
javac BookStore.java
PS C:\Users\VLT-BNT\OneDrive\Documents\Desktop\OOP JAVA> java BookStore
Enter number of books: 3
Enter details for book 1
Name: java
Author: james gosling
Price: 500
Number of pages: 200
Enter details for book 2
Name: Python
Author: Guido van rossum
Price: 149
Number of pages: 300
Enter details for book 3
Name: DBMS
Author: xyz
Price: 450
Number of pages: 320
```

```
import java.util.Scanner;

abstract class Shape {
    abstract void printArea();
}

class Rectangle extends Shape {
    int length, width;

    Rectangle(int length, int width) {
        this.length = length;
        this.width = width;
    }

    void printArea() {
        System.out.println("Area of Rectangle: " + (length * width));
    }
}

class Triangle extends Shape {
    int base, height;

    Triangle(int base, int height) {
        this.base = base;
        this.height = height;
    }

    void printArea() {
        System.out.println("Area of Triangle: " + (0.5 * base * height));
    }
}

class Circle extends Shape {
    int radius;

    Circle(int radius) {
        this.radius = radius;
    }

    void printArea() {
        System.out.println("Area of Circle: " + (Math.PI * radius * radius));
    }
}
```

```
public class ShapeMain {  
    Run | Debug | Run main | Debug main  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
  
        System.out.println("Enter length: ");  
        int length = sc.nextInt();  
        System.out.println("Enter width: ");  
        int width = sc.nextInt();  
        Shape rec = new Rectangle(length, width);  
        rec.printArea();  
  
        System.out.println("Enter base: ");  
        int base = sc.nextInt();  
        System.out.println("Enter height: ");  
        int height = sc.nextInt();  
        Shape tri = new Triangle(base, height);  
        tri.printArea();  
  
        System.out.println("Enter radius of a circle: ");  
        int radius = sc.nextInt();  
        Shape cir = new Circle(radius);  
        cir.printArea();  
  
        sc.close();  
    }  
}
```

```
PS C:\Users\VLT-BNT\OneDrive\Documents\Desktop\OOP JAVA> javac ShapeMain.java  
PS C:\Users\VLT-BNT\OneDrive\Documents\Desktop\OOP JAVA> java ShapeMain  
Enter length:  
23  
Enter width:  
34  
Area of Rectangle: 782  
Enter base:  
1  
Enter height:  
23  
Area of Triangle: 11.5  
Enter radius of a circle:  
3  
Area of Circle: 28.274333882308138
```

