**Assignment No.**: 2  
**Assignment Name**: Designing a Class with Constructors

**Java Program: Designing a Class with Default, Parameterized, and Copy Constructors**

// Class to represent a Book

class Book {

// Attributes (member variables)

private String title;

private String author;

private double price;

// Default constructor (sets default values)

public Book() {

this.title = "Unknown";

this.author = "Unknown";

this.price = 0.0;

}

// Parameterized constructor (allows setting specific values at the time of object creation)

public Book(String title, String author, double price) {

this.title = title;

this.author = author;

this.price = price;

}

// Copy constructor (creates a new object with the same values as another object)

public Book(Book otherBook) {

this.title = otherBook.title;

this.author = otherBook.author;

this.price = otherBook.price;

}

// Member function to accept information about the book from the user

public void acceptDetails(String title, String author, double price) {

this.title = title;

this.author = author;

this.price = price;

}

// Member function to display the details of the book

public void displayDetails() {

System.out.println("Book Title: " + title);

System.out.println("Book Author: " + author);

System.out.println("Book Price: " + price);

}

}

// Main class to test the Book class and demonstrate different constructors

public class BookDetails {

public static void main(String[] args) {

// Using default constructor

Book book1 = new Book();

System.out.println("Book 1 (Default Constructor) Details:");

book1.displayDetails();

// Using parameterized constructor

Book book2 = new Book("Java Programming", "James Gosling", 29.99);

System.out.println("\nBook 2 (Parameterized Constructor) Details:");

book2.displayDetails();

// Using copy constructor

Book book3 = new Book(book2); // Creating a new object using copy constructor

System.out.println("\nBook 3 (Copy Constructor) Details:");

book3.displayDetails();

// Accepting details and displaying

book1.acceptDetails("Effective Java", "Joshua Bloch", 45.50);

System.out.println("\nUpdated Book 1 Details:");

book1.displayDetails();

}

}

**Output:**

Book 1 (Default Constructor) Details:

Book Title: Unknown

Book Author: Unknown

Book Price: 0.0

Book 2 (Parameterized Constructor) Details:

Book Title: Java Programming

Book Author: James Gosling

Book Price: 29.99

Book 3 (Copy Constructor) Details:

Book Title: Java Programming

Book Author: James Gosling

Book Price: 29.99

Updated Book 1 Details:

Book Title: Effective Java

Book Author: Joshua Bloch

Book Price: 45.5