ASSIGNMENT - 2 (JAVA LAB)

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1. **AIM:** Write a Java program to implement a library management system. The program should. Use a base class Book and derived classes Fiction and NonFiction.
   Input Example:
   Book 1:
   Type: Fiction
   Title: Harry Potter
   Author: J.K. Rowling
   Price: 500

   Book 2:
   Type: Non-Fiction
   Title: Sapiens
   Author: Yuval Noah Harari
   Price: 700
   Output Example:
   Fiction Book Details:
   Title: Harry Potter
   Author: J.K. Rowling
   Price: 500

   Non-Fiction Book Details:
   Title: Sapiens
   Author: Yuval Noah Harari
   Price: 700

2. **Implementation/Code:**

```
import java.util.Scanner;

// Base class
class Book {
    protected String title;
    protected String author;
    protected double price;

    // Constructor
```

```
    public Book(String title, String author, double price) {
        this.title = title;
        this.author = author;
        this.price = price;
    }

    // Display method
    public void displayDetails() {
        System.out.println("Title: " + title);
        System.out.println("Author: " + author);
        System.out.println("Price: " + price);
    }
}

// Derived class for Fiction books
class Fiction extends Book {
    public Fiction(String title, String author, double price) {
        super(title, author, price);
    }

    @Override
    public void displayDetails() {
        System.out.println("\nFiction Book Details:");
        super.displayDetails();
    }
}

// Derived class for Non-Fiction books
class NonFiction extends Book {
    public NonFiction(String title, String author, double price) {
        super(title, author, price);
    }

    @Override
    public void displayDetails() {
        System.out.println("\nNon-Fiction Book Details:");
        super.displayDetails();
```

```
    }
}

// Main class
public class LibraryManagement {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Taking input for first book
        System.out.println("Book 1:");
        System.out.print("Type (Fiction/Non-Fiction): ");
        String type1 = scanner.nextLine();
        System.out.print("Title: ");
        String title1 = scanner.nextLine();
        System.out.print("Author: ");
        String author1 = scanner.nextLine();
        System.out.print("Price: ");
        double price1 = scanner.nextDouble();
        scanner.nextLine(); // Consume newline

        // Creating first book object
        Book book1;
        if (type1.equalsIgnoreCase("Fiction")) {
            book1 = new Fiction(title1, author1, price1);
        } else {
            book1 = new NonFiction(title1, author1, price1);
        }

        // Taking input for second book
        System.out.println("\nBook 2:");
        System.out.print("Type (Fiction/Non-Fiction): ");
        String type2 = scanner.nextLine();
        System.out.print("Title: ");
        String title2 = scanner.nextLine();
        System.out.print("Author: ");
        String author2 = scanner.nextLine();
        System.out.print("Price: ");
```

```
        double price2 = scanner.nextDouble();

        // Creating second book object
        Book book2;
        if (type2.equalsIgnoreCase("Fiction")) {
            book2 = new Fiction(title2, author2, price2);
        } else {
            book2 = new NonFiction(title2, author2, price2);
        }

        // Displaying book details
        book1.displayDetails();
        book2.displayDetails();

        scanner.close();
    }
}
```

3. Output: