PROGRAM 3:

Create a class Book which contains four members: name, author, price, num_pages. Include a constructor to set the values for the members. Include methods to set and get the details of the objects. Include a toString( ) method that could display the complete details of the book. Develop a Java program to create n book objects.

CODE:

```
import java.util.Scanner;

class Book {

    private String name;
    private String author;
    private double price;
    private int numPages;

    public Book(String name, String author, double price, int numPages) {
        this.name = name;
        this.author = author;
        this.price = price;
        this.numPages = numPages;
    }


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

```
    public void setAuthor(String author) {
        this.author = author;
    }

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

    public void setNumPages(int numPages) {
        this.numPages = numPages;
    }

    public String getName() {
        return name;
    }

    public String getAuthor() {
        return author;
    }

    public double getPrice() {
        return price;
    }

    public int getNumPages() {
        return numPages;
    }

    @Override
    public String toString() {
        return "Book Name: " + name + "\nAuthor: " + author + "\nPrice: "
+ price + "\nNumber of Pages: " + numPages;
    }
}

public class BookStore {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int n;
```

```
        System.out.print("Enter the number of books you want to create:
");
        n = scanner.nextInt();
        scanner.nextLine(); // Consume newline character

        Book[] books = new Book[n];  // Array to hold multiple Book
objects

        int count = 0;  // Counter for the books created

        while (true) {
            System.out.println("\n--- Book Store Menu ---");
            System.out.println("1. Create a Book");
            System.out.println("2. Set Book Details");
            System.out.println("3. Get Book Details");
            System.out.println("4. Display All Books");
            System.out.println("5. Exit");
            System.out.print("Enter your choice: ");
            int choice = scanner.nextInt();
            scanner.nextLine(); // Consume newline character

            switch (choice) {
                case 1:
                    if (count < n) {
                        // Create a new book object with user input
                        System.out.print("Enter Book Name: ");
                        String name = scanner.nextLine();
                        System.out.print("Enter Author Name: ");
                        String author = scanner.nextLine();
                        System.out.print("Enter Book Price: ");
                        double price = scanner.nextDouble();
                        System.out.print("Enter Number of Pages: ");
                        int numPages = scanner.nextInt();
                        scanner.nextLine(); // Consume newline character

                        // Create the Book object and store it in the
array
                        books[count] = new Book(name, author, price,
numPages);
```

```
                        count++; // Increment the counter after creating
the book
                        System.out.println("Book created successfully!");
                    } else {
                        System.out.println("You have already created the
maximum number of books.");
                    }
                    break;

                case 2:
                    // Set details for a specific book
                    System.out.print("Enter the book index (0 to " + (n -
1) + "): ");
                    int index = scanner.nextInt();
                    scanner.nextLine(); // Consume newline character

                    if (index >= 0 && index < n && books[index] != null) {
                        System.out.print("Enter new Book Name: ");
                        String newName = scanner.nextLine();
                        System.out.print("Enter new Author Name: ");
                        String newAuthor = scanner.nextLine();
                        System.out.print("Enter new Price: ");
                        double newPrice = scanner.nextDouble();
                        System.out.print("Enter new Number of Pages: ");
                        int newNumPages = scanner.nextInt();
                        scanner.nextLine(); // Consume newline character

                        books[index].setName(newName);
                        books[index].setAuthor(newAuthor);
                        books[index].setPrice(newPrice);
                        books[index].setNumPages(newNumPages);
                        System.out.println("Book details updated
successfully!");
                    } else {
                        System.out.println("Invalid book index or no book
created at this index.");
                    }
                    break;

                case 3:
```

```
                    System.out.print("Enter the book index (0 to " + (n -
1) + "): ");
                    index = scanner.nextInt();
                    scanner.nextLine(); // Consume newline character

                    if (index >= 0 && index < n && books[index] != null) {
                        System.out.println("Book details:\n" +
books[index].toString());
                    } else {
                        System.out.println("Invalid book index or no book
created at this index.");
                    }
                    break;

                case 4:

                    System.out.println("\n--- All Books ---");
                    for (int i = 0; i < n; i++) {
                        if (books[i] != null) {
                            System.out.println("\nBook " + (i + 1) + ":");
                            System.out.println(books[i].toString());
                        } else {
                            System.out.println("No details for Book " + (i
+ 1) + " yet.");
                        }
                    }
                    break;

                case 5:

                    System.out.println("Exiting the program.");
                    scanner.close();
                    return;

                default:
                    System.out.println("Invalid choice. Please try
again.");
            }
        }
```

```
    }
}
```

OUTPUT:

```
Enter the number of books you want to create: 2

--- Book Store Menu ---
1. Create a Book
2. Set Book Details
3. Get Book Details
4. Display All Books
5. Exit
Enter your choice: 1
Enter Book Name: SINCHANA
Enter Author Name: SIN
Enter Book Price: 499
Enter Number of Pages: 129
Book created successfully!

--- Book Store Menu ---
1. Create a Book
2. Set Book Details
3. Get Book Details
4. Display All Books
5. Exit
Enter your choice: 1
Enter Book Name: SATWIK
Enter Author Name: SAT
Enter Book Price: 699
Enter Number of Pages: 128
Book created successfully!

--- Book Store Menu ---
1. Create a Book
2. Set Book Details
3. Get Book Details
4. Display All Books
5. Exit
Enter your choice: 2
```

```
Enter the book index (0 to 1): 1
Enter new Book Name: AMBIKA
Enter new Author Name: AMB
Enter new Price: 899
Enter new Number of Pages: 126
Book details updated successfully!

--- Book Store Menu ---
1. Create a Book
2. Set Book Details
3. Get Book Details
4. Display All Books
5. Exit
Enter your choice: 3
Enter the book index (0 to 1): 1
Book details:
Book Name: AMBIKA
Author: AMB
Price: 899.0
Number of Pages: 126

--- Book Store Menu ---
1. Create a Book
2. Set Book Details
3. Get Book Details
4. Display All Books
5. Exit
Enter your choice: 4

--- All Books ---

Book 1:
Book Name: SINCHANA
Author: SIN
Price: 499.0
Number of Pages: 129

Book 2:
Book Name: AMBIKA
Author: AMB
```

```
Price: 899.0
Number of Pages: 126

--- Book Store Menu ---
1. Create a Book
2. Set Book Details
3. Get Book Details
4. Display All Books
5. Exit
Enter your choice: 5
Exiting the program.
```

NOTES: