Experiment 2

Student Name: AMAN RAJ **UID: 22BCS12582**
Branch: BE-CSE **Section/Group: 901_A**
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Subject Name: Project Based Learning in Java with Lab **Subject Code: 22CSH-359**

1. **Aim:** **Design and implement a simple inventory control system for a small video rental store.**

2. **Objective:** **The objective of this project is to design and implement a simple inventory control system for a small video rental store. The system consists of three main classes:** `Video`, `VideoStore`, and `VideoStoreLauncher`.

3. **Implementation/Code:**

```
import java.util.*;

class Video {
   String title;
   Boolean flag = false;
   int rating = 0;
}

class VideoStore {
   Video[] videos = new Video[10];

   void addVideo() {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter 10 videos to store:");
      for (int i = 0; i < 10; i++) {
         videos[i] = new Video();
         videos[i].title = sc.nextLine();
      }
   }

   void checkOut(String title) {
      boolean found = false;
      for (int i = 0; i < 10; i++) {
         if (videos[i].title.equals(title) && !videos[i].flag) {
            videos[i].flag = true;
```

```
            System.out.println("Video checked out successfully!");
            found = true;
            break;
        }
    }
    if (!found) {
        System.out.println("Video not available or already checked out.");
    }
}

void returnVideo(String title) {
    boolean found = false;
    Scanner sc = new Scanner(System.in);
    for (int i = 0; i < 10; i++) {
        if (videos[i].title.equals(title) && videos[i].flag) {
            videos[i].flag = false;
            System.out.println("Give a rating (5 or less):");
            int rating = sc.nextInt();
            if (rating <= 5) {
                receiveRating(title, rating);
            } else {
                System.out.println("Please rate under 5.");
            }
            found = true;
            break;
        }
    }
    if (!found) {
        System.out.println("Video was never checked out.");
    }
}

void receiveRating(String title, int rating) {
    for (int i = 0; i < 10; i++) {
        if (videos[i].title.equals(title)) {
            videos[i].rating = rating;
            System.out.println("Thanks for rating the video \"" + title + "\"
 with " + rating + " stars!");
            return;
        }
    }
}
```

```
    void listInventory() {
        System.out.println("Current Inventory:");
        for (int i = 0; i < 10; i++) {
            if (!videos[i].flag) {
                System.out.println(videos[i].title + " (Available)");
            } else {
                System.out.println(videos[i].title + " (Checked Out)");
            }
        }
    }
}

public class VideoStoreLauncher {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        VideoStore vs = new VideoStore();

        vs.addVideo();

        System.out.println("Enter a video for checkout:");
        String checkoutTitle = sc.nextLine();
        vs.checkOut(checkoutTitle);

        System.out.println("Enter a video for return:");
        String returnTitle = sc.nextLine();
        vs.returnVideo(returnTitle);

        vs.listInventory();
    }
}
```

4. **Output:**

```
Enter 10 videos to store:
THE MATRIX
GODFATHER
HUNGAMA
HERA PHERI
DHAMAL
PUSHPA
KGF
VENOM
DEADPOOL
AVENGER
Enter a video for checkout:
DEADPOOL
Video checked out successfully!
```

```
Enter a video for return:
DEADPOOL
Give a rating (5 or less):
4
Thanks for rating the video "DEADPOOL" with 4 stars!
Current Inventory:
THE MATRIX (Available)
GODFATHER (Available)
HUNGAMA (Available)
HERA PHERI (Available)
DHAMAL (Available)
PUSHPA (Available)
KGF (Available)
VENOM (Available)
DEADPOOL (Available)
AVENGER (Available)
```

5. Learning Outcomes:

- **Understand object-oriented programming concepts such as classes, objects, attributes, and methods.**
- **Learn to implement and manipulate arrays in Java.**
- **Gain experience in designing and managing an inventory system.**
- **Practice developing and using methods for object interactions.**
- **Improve debugging and testing skills through a structured main program.**
- **Enhance problem-solving abilities by implementing business logic for a rental system.**