Experiment 2

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

2. **Objective:**
   - ○ To learn about concept of objects and classes.
   - ○ To learn about Arrays, List in Java.

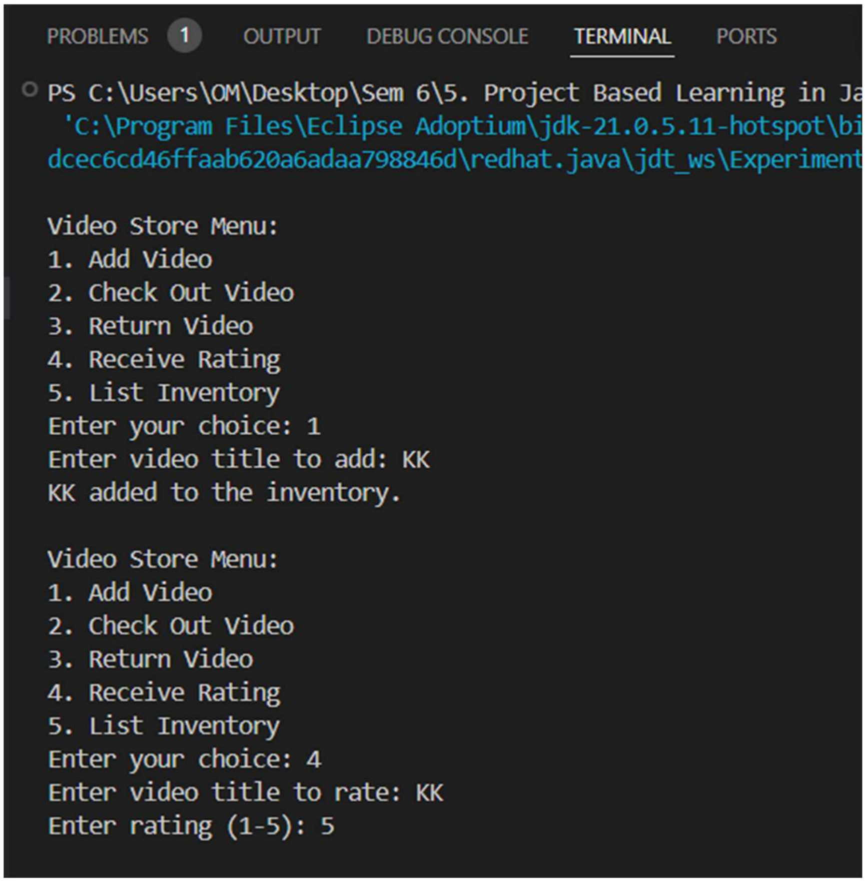
3. **Problem Statement:** The goal of this project is to design and implement a simple inventory control system for a small video rental store. Define least two classes: a class Video to model a video and a class VideoStore to model the actual store.

4. **Implementation/Code:**

```
import java.util.*;
class Video{
    String title;
    boolean checked_out;
    List<Integer> ratings;
    Video(String title){
        this.title=title;
        this.checked_out=false;
        this.ratings = new ArrayList<>();
    }
    public String getTitle() {
        return title;
    }
    void being_checked_out(){
        if (checked_out==false) {
            checked_out = true;
            System.out.println(title + " is checked out.");
        }
        else {
            System.out.println(title + " is already checked out.");
        }
    }
    void being_returned(){
        if (checked_out==true) {
            checked_out = false;
            System.out.println(title + " is returned.");
        }
    }
    void receiving_rating(int rating){
        ratings.add(rating);
    }
    float average_rating(){
        if(ratings.isEmpty()) return 0.0f;
        int temp=0;
        for(int i=0;i<ratings.size();i++){
            temp=temp+ratings.get(i);
        }
        return temp/ratings.size();
    }
    void display(){
        System.out.println("Title: "+title+" has average rating: "+average_rating());
    }
}
class VideoStore {
    List<Video> videos;
    public VideoStore() {
        videos = new ArrayList<>();
    }
    public void addVideo(String title) {
        videos.add(new Video(title));
        System.out.println(title + " added to the inventory.");
    }
    public Video findVideo(String title) {
        for (Video video : videos) {
            if (video.getTitle().equals(title)) {
```

```
            return video;
        }
    }
    return null;
}
public void checkOut(String title) {
    Video video = findVideo(title);
    if (video != null) {
        video.being_checked_out();
    }
    else {
        System.out.println("Video not found in inventory.");
    }
}
public void returnVideo(String title) {
    Video video = findVideo(title);
    if (video != null) {
        video.being_returned();
    } else {
        System.out.println("Video not found in inventory.");
    }
}
public void receiveRating(String title, int rating) {
    Video video = findVideo(title);
    if (video != null) {
        video.receiving_rating(rating);
    } else {
        System.out.println("Video not found in inventory.");
    }
}
public void listInventory() {
    if (videos.isEmpty()) {
        System.out.println("No videos in inventory.");
    } else {
        System.out.println("Inventory:");
        for (Video video : videos) {
            video.display();
        }
        }
    }
}
public class Exp2 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        VideoStore store = new VideoStore();
        while(true){
            System.out.println("\nVideo Store Menu:");
           System.out.println("1. Add Video \n2. Check Out Video \n3. Return Video \n4. Receive
Rating \n5. List Inventory ");
            System.out.print("Enter your choice: ");
            int choice = sc.nextInt();
            sc.nextLine();
            switch (choice) {
                case 1:
                    System.out.print("Enter video title to add: ");
                    String titleToAdd = sc.nextLine();
                    store.addVideo(titleToAdd);
                    break;
                case 2:
                    System.out.print("Enter video title to check out: ");
                    String titleToCheckOut = sc.nextLine();
                    store.checkOut(titleToCheckOut);
                    break;
                case 3:
                    System.out.print("Enter video title to return: ");
                    String titleToReturn = sc.nextLine();
                    store.returnVideo(titleToReturn);
                    break;
                case 4:
                    System.out.print("Enter video title to rate: ");
                    String titleToRate = sc.nextLine();
                    System.out.print("Enter rating (1-5): ");
                    int rating = sc.nextInt();
                    store.receiveRating(titleToRate, rating);
                    break;
                case 5:
                    store.listInventory();
                    break;
                default:
                    return;
            }
        }
    }
}
```

5. Output:



```
PS C:\Users\OM\Desktop\Sem 6\5. Project Based Learning in Ja
 'C:\Program Files\Eclipse Adoptium\jdk-21.0.5.11-hotspot\bi
dcec6cd46ffaab620a6adaa798846d\redhat.java\jdt_ws\Experiment

Video Store Menu:
1. Add Video
2. Check Out Video
3. Return Video
4. Receive Rating
5. List Inventory
Enter your choice: 1
Enter video title to add: KK
KK added to the inventory.

Video Store Menu:
1. Add Video
2. Check Out Video
3. Return Video
4. Receive Rating
5. List Inventory
Enter your choice: 4
Enter video title to rate: KK
Enter rating (1-5): 5
```

6. Learning Outcomes:

a) Learned about Access modifiers in Java.

b) Learned about using custom data types as data types of array in Java.