Experiment 2

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1. Aim/Overview of the practical:

A Video Rental Inventory System

2. Task to be done/ Which logistics used:

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.

Assume that an object of class Video has the following attributes:

1. A title;
2. a flag to say whether it is checked out or not; and
3. An average user rating.

Add instance variables for each of these attributes to the Video class.

In addition, you will need to add methods corresponding to the following:

1. being checked out;
2. being returned; and
3. receiving a rating.

The VideoStore class will contain at least an instance variable that references an array of videos (say of length 10). The VideoStore will contain the following methods:

1. addVideo(String): add a new video (by title) to the inventory;
2. checkOut(String): check out a video (by title);
3. returnVideo(String): return a video to the store;
4. receiveRating(String, int) : take a user's rating for a video; and
5. listInventory(): list the whole inventory of videos in the store.

Finally, create a VideoStoreLauncher class with a main() method which will test the functionality of your other two classes. It should allow the following.

1. Add 3 videos: "The Matrix", "Godfather II", "Star Wars Episode IV: A New Hope".
2. Give several ratings to each video.
3. Rent each video out once and return it. List the inventory after "Godfather II" has been rented out

3. Steps for experiment/practical/Code:

```
import java.util.Scanner;
class Video1
{
	String videoName;
	boolean checkout;
	int rating;
	public Video1(String name)
	{
		videoName=name;
	}
	public String getName()
	{
		return videoName;
	}
	public void doCheckout()
	{
		System.err.println("Video "+'"'+ getName()+'"' +" checked out successfully.");
	}
	public void doReturn()
	{
		checkout=true;
		System.err.println("Video "+'"'+ getName()+'"' +" returned successfully.");
	}
	public void receiveRating(int rating)
	{
		this.rating=rating;
	}
	public int getRating()
	{
		return rating;
	}
	public boolean getCheckout()
	{
		return checkout;
	}
}
class VideoStore1
{
	Video1[] store;
	public VideoStore1()
	{
```

```
		store=new Video1[5];
	}
	public void addVideo(String name)
	{
		store[0]=new Video1(name);
		System.err.println("Video "+'"'+store[0].getName()+'"'+" added successfully");

	}
	public void doCheckout(String name)
	{
		if(store[0].videoName.equals(name))
		{
			store[0].doCheckout();
		}
	}
	public void doReturn(String name)
	{
		if(store[0].videoName.equals(name))
		{
			store[0].doReturn();
		}
	}
	public void receiveRating(String name, int rating)
	{
		if(store[0].videoName.equals(name))
		{
			store[0].receiveRating(rating);
		}
		System.err.println("Rating "+'"'+store[0].getRating()+'"'+" has been mapped to the
Video '"+store[0].getName()+'"');
	}
	public void listInventory() {
		System.out.println("----------------------------------------");
		System.out.println("Video Name | Checkout Status | Rating");
		System.out.println(store[0].getName()+"|" +store[0].getCheckout()+ "|"+
store[0].getRating());
		System.out.println("----------------------------------------");
	}
}
class VideoStoreLaucher
{
	public static void main(String[] args)
	{
		Scanner input=new Scanner(System.in);
		int choice;
		VideoStore1 videoStore=new VideoStore1();
		do {
			System.out.println("MAIN MENU \n=========");
			System.out.println("1. Add Videos:");
			System.out.println("2. Check Out Video:");
			System.out.println("3. Return Video:");
```

```
                System.out.println("4. Receive Rating:");
                System.out.println("5. List Inventory:");
                System.out.println("6. Exit:");
                System.out.print("Enter your choice(1..6): ");
                choice=input.nextInt();
                switch (choice) {
                case 1:
                       System.out.println("Enter the name of the video you want to add: ");
                       videoStore.addVideo(input.next());
                       break;
                case 2:
                       System.out.print("Enter the name of the video you want to check out:
");
                       videoStore.doCheckout(input.next());
                       break;
                case 3:
                       System.out.print("Enter the name of the video you want to Return:");
                       videoStore.doReturn(input.next());
                       break;
                case 4:
                       System.out.println("Enter the name of the video you want to
                       Rate: "); videoStore.receiveRating(input.next(),
                       input.nextInt()); break;
                case 5:
                       videoStore.listInventory();
                       break;
                case 6:
                       System.err.println("Enter ...!! Thanks for using the
                       application"); System.exit(0);
                       break;
 }
 }while(!(choice>=6));
 input.close();
 }
}
```

4. Result/Output/Writing Summary:

```
<terminated> exp1_2 [Java Application] C:\Users\Nitin Batra\.p2\pool\pl
MAIN MENU
=========
1. Add Videos:
2. Check Out Video:
3. Return Video:
4. Receive Rating:
5. List Inventory:
6. Exit:
Enter your choice(1..6): 1
Enter the name of the video you want to add:
GODZILLA
Video "GODZILLA" added successfully
MAIN MENU
=========
1. Add Videos:
2. Check Out Video:
3. Return Video:
4. Receive Rating:
5. List Inventory:
6. Exit:
Enter your choice(1..6): 4
Enter the name of the video you want to Rate:
GODZILLA
4
Rating "4" has been mapped to the Video ''GODZILLA"
MAIN MENU
=========
1. Add Videos:
2. Check Out Video:
3. Return Video:
4. Receive Rating:
5. List Inventory:
6. Exit:
Enter your choice(1..6): 5
----------------------------------------
Video Name | Checkout Status | Rating
GODZILLA|false|4
```

Learning outcomes (What I have learnt):

1. Learnt about classes in Java.
2. Learnt about access specifiers in Java.
3. Leant about methods in Java.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			