PROJECT 1

Student Name: Devesh Rajpoot   **UID: 23BCS13411**
Branch: BE CSE
Semester: 5th sem
Subject Name:JAVA

1.Project Title: Video Rental
System

2.Java Code:

Video.java

```java
public class Video {
    private String title;
    private boolean checkedOut;
    private int ratingSum;
    private int ratingCount;

    public Video(String title) {
        this.title = title;
        this.checkedOut = false;
        this.ratingSum = 0;
        this.ratingCount = 0;
    }

    public void checkOut() {
        checkedOut = true;
    }
```

```java
    public void returnVideo() {
        checkedOut = false;
    }

    public void receiveRating(int rating) {
        if (rating >= 1 && rating <= 5) {
            ratingSum += rating;
            ratingCount++;
        }
    }

    public String getTitle() {
        return title;
    }

    public boolean isCheckedOut() {
        return checkedOut;
    }

    public double getAverageRating() {
        if (ratingCount == 0) return 0.0;
        return (double) ratingSum / ratingCount;
    }

    @Override
    public String toString() {
        return "Title: " + title + ", Checked Out: " + checkedOut + ", Average Rating: " + getAverageRating();
    }
}
```
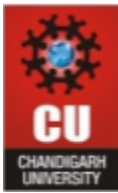
VideoStore.java

```java
public class VideoStore {
    private Video[] inventory;
    private int count;
```

```java
    public VideoStore() {
        inventory = new Video[10];
        count = 0;
    }

    public void addVideo(String title) {
        if (count < inventory.length) {
            inventory[count++] = new Video(title);
        } else {
            System.out.println("Inventory is full.");
        }
    }

    public void checkOut(String title) {
        Video video = findVideo(title);
        if (video != null) {
            video.checkOut();
        }
    }

    public void returnVideo(String title) {
        Video video = findVideo(title);
        if (video != null) {
            video.returnVideo();
        }
    }

    public void receiveRating(String title, int rating) {
        Video video = findVideo(title);
        if (video != null) {
            video.receiveRating(rating);
        }
    }

    public void listInventory() {
        System.out.println("=== Inventory ===");
        for (int i = 0; i < count; i++) {
```

```java
            System.out.println(inventory[i]);
        }
    }

    private Video findVideo(String title) {
        for (int i = 0; i < count; i++) {
            if (inventory[i].getTitle().equalsIgnoreCase(title)) {
                return inventory[i];
            }
        }
        System.out.println("Video not found: " + title);
        return null;
    }
}
```
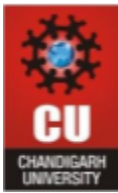
VideoStoreLauncher

```java
public class VideoStoreLauncher {
    public static void main(String[] args) {
        VideoStore store = new VideoStore();


        store.addVideo("The Matrix");
        store.addVideo("Godfather II");
        store.addVideo("Star Wars Episode IV: A New Hope");


        store.receiveRating("The Matrix", 5);
        store.receiveRating("The Matrix", 4);
        store.receiveRating("Godfather II", 5);
        store.receiveRating("Godfather II", 3);
        store.receiveRating("Star Wars Episode IV: A New Hope", 5);
        store.receiveRating("Star Wars Episode IV: A New Hope", 4);


        store.checkOut("The Matrix");
```

```java
        store.returnVideo("The Matrix");
        store.checkOut("Godfather II");
        store.returnVideo("Godfather II");
        store.checkOut("Star Wars Episode IV: A New Hope");
        store.returnVideo("Star Wars Episode IV: A New Hope");


        store.checkOut("Godfather II");
        store.listInventory();
    }
}
```

3.OUTPUT:


```
Run        VideoStoreLauncher  ✕

C:\Users\hp\.jdks\openjdk-23.0.2\bin\java.exe "-javaagent:C:\Users\hp\IntelliJ IDEA Comm
=== Inventory ===
Title: The Matrix, Checked Out: false, Average Rating: 4.5
Title: Godfather II, Checked Out: true, Average Rating: 4.0
Title: Star Wars Episode IV: A New Hope, Checked Out: false, Average Rating: 4.5

Process finished with exit code 0
```