**Question:**

**Design video rental system for five new movies in Java.**

**CODE:**

**Video.java**

package com.sikshapath;  
  
import java.util.ArrayList;  
import java.util.List;  
  
public class Video {  
  
 private String title;  
  
 private boolean checkedOut;  
  
 private List<Integer> userRating = new ArrayList<>();  
  
 public String getTitle() {  
 return title;  
 }  
  
 public void setTitle(String title) {  
 this.title = title;  
 }  
  
 public List<Integer> getUserRating() {  
 return userRating;  
 }  
  
 public void receivingRating(int userRating) {  
 this.userRating.add(userRating);  
 }  
  
 public void beingCheckedOut() {  
 checkedOut = true;  
 }  
  
 public void beingReturned() {  
 checkedOut = false;  
 }  
  
 public boolean getCheckedOutStatus() {  
 return checkedOut;  
 }  
  
 @Override  
 public String toString() {  
 return "title: " + title + ", rating: " + userRating;  
 }  
}

**VideoStore.java**

package com.sikshapath;  
  
import java.util.ArrayList;  
import java.util.List;  
import java.util.Optional;  
  
public class VideoStore {  
  
 private List<Video> videos = new ArrayList<>();  
  
 public void addVideo(String videoTitle) {  
 Video video = new Video();  
 video.setTitle(videoTitle);  
 videos.add(video);  
 }  
  
 public void checkOut(String videoTitle) throws Exception {  
 Optional<Video> videoOptional = videos.stream()  
 .filter(video -> video.getTitle().equals(videoTitle))  
 .findFirst();  
 if (videoOptional.isPresent()) {  
 Video video = videoOptional.get();  
 if (video.getCheckedOutStatus()) {  
 throw new Exception("Video already checked out!!");  
 }  
 video.beingCheckedOut();  
 }  
 else {  
 throw new Exception("Video does not exist!");  
 }  
 }  
  
 public void returnVideo(String videoTitle) throws Exception {  
 Optional<Video> videoOptional = videos.stream()  
 .filter(video -> video.getTitle().equals(videoTitle))  
 .findFirst();  
 if (videoOptional.isPresent()) {  
 Video video = videoOptional.get();  
 if (!video.getCheckedOutStatus()) {  
 throw new Exception("Video not checked out, what are you returning!");  
 }  
 video.beingReturned();  
 }  
 else {  
 throw new Exception("Video does not exist!");  
 }  
 }  
  
 public void receiveRating(String videoTitle, int rating) throws Exception {  
 Optional<Video> videoOptional = videos.stream()  
 .filter(video -> video.getTitle().equals(videoTitle))  
 .findFirst();  
 if (videoOptional.isPresent()) {  
 Video video = videoOptional.get();  
 video.receivingRating(rating);  
 }  
 else {  
 throw new Exception("Video does not exist!");  
 }  
 }  
  
 public void listInventory() {  
 videos.stream()  
 .filter(video -> !video.getCheckedOutStatus())  
 .forEach(System.out::println);  
 }  
  
}

**Store.java**

package com.sikshapath;  
import java.util.\*;  
class Video{  
 String title;  
 boolean[] flag=new boolean[10];  
  
 int[] user\_rating=new int[10];  
 void beingCheckout(int i)  
 {  
 if(flag[i]==true)  
 flag[i]=false;  
 }  
 void beingReturned(int j)  
 {  
 if(flag[j]==false)  
 flag[j]=true;  
 }  
 void receiveRating(int n, int no)  
 {  
 user\_rating[n]=no;  
 }  
}  
class VideoStore extends Video  
{  
 Video obj=new Video();  
 String[] videos=new String[10];  
 int[] rate=new int[10];  
 int i=0;  
  
 void addVideo(String title)  
 {  
  
 videos[i++]=title;  
 }  
 void checkOut(String nm)  
 {  
  
 int j,index=0;  
 for(j=0;j<3;j++)  
 {  
 if(videos[j].equals(nm))  
 {  
 index=j;  
 }  
 }  
 beingCheckout(index);  
 }  
 void returnVideo(String nm)  
 {  
 int j,index=0;  
 for(j=0;j<3;j++)  
 {  
 if(videos[j].equals(nm))  
 {  
 index=j;  
 }  
 }  
 beingReturned(index);  
 }  
 void receiveRating(int n, int no )  
 {  
 rate[n]=no;  
 this.receiveRating(n,no);  
 }  
 void listInventory()  
 {  
 int i;  
  
 for(i=0;i<3;i++)  
 {  
  
 if(flag[i]==true)  
 System.out.println(videos[i]+" " +flag[i]);  
 }  
  
 }  
}  
public class store extends VideoStore{  
 public static void main(String args[])  
 {  
 VideoStore o=new VideoStore();  
  
 Arrays.fill(o.flag, true);  
  
 o.addVideo("The Matrix");  
 o.addVideo("Godfather II");  
 o.addVideo("Star War Episode IV: A New Hope");  
 o.receiveRating(0, 4);  
 o.receiveRating(1, 3);  
 o.receiveRating(2, 5);  
 o.checkOut("The Matrix");  
 o.checkOut("Godfather II");  
 o.checkOut("Star War Episode IV: A New Hope");  
 o.returnVideo("The Matrix");  
 o.returnVideo("Godfather II");  
 o.returnVideo("Star War Episode IV: A New Hope");  
 o.checkOut("Godfather II");  
 o.listInventory();  
  
 }  
}

**VideoStoreLauncher.java**

package com.sikshapath;  
  
import java.util.Scanner;  
  
public class VideoStoreLauncher {  
  
 public static void main(String[] args) throws Exception {  
  
 VideoStore videoStore = new VideoStore();  
 System.out.println("Ranjit Raj 20BCS9943");  
 System.out.println("Welcome to the shop, select action:");  
  
 System.out.println("1. Add video");  
 System.out.println("2. Check out video");  
 System.out.println("3. Return video");  
 System.out.println("4. Give video a rating");  
 System.out.println("5. Show list of videos");  
 System.out.println("6. Exit the shop");  
 System.out.println();  
  
 Scanner scanner = new Scanner(System.in);  
  
 boolean shouldExit = false;  
 while (!shouldExit) {  
 System.out.println("Select your action:");  
 int action = scanner.nextInt();  
 scanner.nextLine();  
 switch (action) {  
 case 1:  
 System.out.println("Enter video title:");  
 videoStore.addVideo(scanner.nextLine());  
 break;  
 case 2:  
 System.out.println("Enter video title:");  
 videoStore.checkOut(scanner.nextLine());  
 break;  
 case 3:  
 System.out.println("Enter video title:");  
 videoStore.returnVideo(scanner.nextLine());  
 break;  
 case 4:  
 System.out.println("Enter video title:");  
 String title = scanner.nextLine();  
 System.out.println("Enter rating: ");  
 int rating = scanner.nextInt();  
 videoStore.receiveRating(title, rating);  
 break;  
 case 5:  
 videoStore.listInventory();  
 break;  
 case 6:  
 shouldExit = true;  
 break;  
 default:  
 throw new Exception("Such action does not exist:");  
 }  
 }  
  
  
  
 }  
  
}

**Output:**

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