**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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