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| **Name** | Shubhan Singh |
| **UID no.** | 2022300118 |
| **Experiment No.** | 2 |

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| **PROBLEM STATEMENT :** | *The "User" class represents a user on a ‘buy and stream’ movie platform with attributes : name, age, account balance.*  *The “Movie” class represents a movie on the platform with attributes: Movie Title, AgeRestriction, Cost of the movie.*  *The User class should have a method to check whether he can watch a movie based on his age and also account balance.*  *The User class should also have a method to WatchMovie where he has to pay the cost for the Movie to watch it.*  *The Movie class should have methods to get Cost and Age restriction.*  *The main method should create objects of the "User" and "Movie" classes and demonstrate the use of their methods.* |
| **THEORY:** |  |
| **PROGRAM:** | import java.util.\*;//for scanner class and arraylist class Movie{  Scanner sc= new Scanner(System.in);  String Title;  int Age\_res;  float Cost;  Movie(){}  Movie(String *Title*){  this.Title=*Title*;  }//title of movie is passed through a constructor  void getData(){//method to get data from user  System.out.println("Enter the cost of the movie");  Cost=sc.nextFloat();  System.out.println("Enter the Age restriction of the movie");  Age\_res= sc.nextInt();  } } class User{  Movie M= new Movie();  int age;  String name;  float acc\_balance;  User(Movie *m*,int *age*,String *name*,float *bal*){//Method to initialise all relevant variables for the object  M=*m*;  this.age=*age*;  this.name=*name*;  acc\_balance=*bal*;  }  boolean Can\_Watch = age>=M.Age\_res;//Is true if user age is >= age restriction  void can\_watch\_movie(){//Tells whether user can watch movie based on his age  if(Can\_Watch){  System.out.println("You can watch this movie");  }  else{  System.out.println("You cannot watch this movie");  }  }  void Watch(){//deducts cost of movie from balance or tells that balance is inadequate  if(Can\_Watch && (acc\_balance>=M.Cost)) {  acc\_balance -= M.Cost;  }  else{  System.out.println("You cannot watch this movie or balance is insufficient");  }  }  void printbal(){  System.out.println("The updated balance is: "+ acc\_balance);  }//prints balance } public class Movie\_watch {  public static void main(String[] *args*) {  int usr\_age;  String usr\_name;  float usr\_bal;  Scanner sc= new Scanner (System.in);  String Temp\_Mov\_name;//Temporary variables to be used later  String Temp\_Mov\_name\_user;  ArrayList<Movie>Moviearr = new ArrayList<>();//Dynamic array defined using arraylist,  // as we do not know the number of movies that would be entered  System.out.println("Type the name, age and initial account balance of user");  usr\_name=sc.nextLine();  usr\_age=sc.nextInt();  usr\_bal=sc.nextFloat();  System.out.println("Type 0 to exit the admin interface(or 1 to remain in it)");  while(sc.nextInt()!=0){  sc.nextLine();//To clear input buffer, as nextint reads the integer but leaves the \n behind  System.out.println("Enter name of movie");  Temp\_Mov\_name= sc.nextLine();  Temp\_Mov\_name=Temp\_Mov\_name.toLowerCase();  Movie Tempmov= new Movie(Temp\_Mov\_name);//creating a temporary movie object to add at end of arraylist  Tempmov.getData();  Moviearr.add(Tempmov);//adding the object at the end of the arraylist  System.out.println("Type 0 to exit the admin interface(or 1 to remain in it)");  }  System.out.println("You are now in User interface, press 0 to exit it, 1 to remain");  while(sc.nextInt()!=0) {  sc.nextLine();//To clear \n from buffer  int req\_index=-1;  System.out.println("Enter name of movie");  Temp\_Mov\_name\_user = sc.nextLine();  Temp\_Mov\_name\_user=Temp\_Mov\_name\_user.toLowerCase();  for(int i=0;i<Moviearr.size();i++){//To check for required movie and fetch it from the library  if(Moviearr.get(i).Title.equals(Temp\_Mov\_name\_user)){  req\_index=i;  break;  }  }  if(req\_index==-1){  System.out.println("Movie not found");  }  else{//Driver Code  User usr=new User(Moviearr.get(req\_index),usr\_age,usr\_name,usr\_bal);  usr.can\_watch\_movie();  System.out.println("Do you want to watch this movie? (enter 1 for yes, 0 for no)");  if(sc.nextInt()==1){  usr.Watch();  usr.printbal();  }  }  System.out.println("Enter 0 to exit program, 1 to check for another movie");  }  } }  Link to program for better readability and copying(it doesn’t get copied properly from the pdf):  <https://github.com/IAmAGoodBoy04/Java_PSOOP/blob/master/Week%202/src/Movie_watch.java> |
| **RESULT:** | |