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Experiment No.	2A

AIM:	***Object as parameter***
Program 1	
PROBLEM STATEMENT :	***Problem Statements 1.*** 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.

PROGRAM:	`import java.util.*;`
	`class User {`
	`  private String name;`
	`  private int age;`
	`  private double accountBalance;`
	
	`  public User(String name, int age, double accountBalance) {`
	`  this.name = name;`
	`  this.age = age;`
	`  this.accountBalance = accountBalance;`
	`  }`
	
	`  public boolean canWatchMovie(Movie movie) {`
	`  return age >= movie.getAgeRestriction() && accountBalance >= movie.getCost();`
	`  }`

```
    public void watchMovie(Movie movie) {
        if (canWatchMovie(movie)) {
            System.out.println(name + " is watching " +
movie.getTitle());
            accountBalance -= movie.getCost();
            System.out.println(name + " has paid $" +
movie.getCost());
        } else {
            System.out.println(name + " cannot watch " +
movie.getTitle() + " due to age or insufficient balance.");
        }
    }

    public String getName() {
        return name;
    }

    public double getAccountBalance() {
        return accountBalance;
    }
}

class Movie {
    private String title;
    private int ageRestriction;
    private double cost;

    public Movie(String title, int ageRestriction, double cost) {
        this.title = title;
        this.ageRestriction = ageRestriction;
        this.cost = cost;
    }

    public double getCost() {
        return cost;
    }

    public int getAgeRestriction() {
        return ageRestriction;
    }

    public String getTitle() {
        return title;
    }
```

```
}

public class Main2{
    public static void main(String[] args) {

        Scanner sc=new Scanner(System.in);
        System.out.println("Enter name");
        String name=sc.next();
        System.out.println("Enter age");
        int age=sc.nextInt();
        System.out.println("Enter accountbalamce");
        double accountbalance=sc.nextDouble();
        System.out.println("Enter movie title");
        String movietitle=sc.next();
        System.out.println("Enter age restriction");
        int ageres=sc.nextInt();
        System.out.println("Enter cost");
        double cost=sc.nextDouble();
        User user = new User(name,age,accountbalance);
        Movie movie = new Movie(movietitle,ageres,cost);

        System.out.println("Can " + user.getName() + " watch " +
movie.getTitle() + "? " + user.canWatchMovie(movie));

        user.watchMovie(movie);

        System.out.println(user.getName() + "'s account balance
after watching: $" + user.getAccountBalance());
    }
}
```

RESULT:

```
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ javac Main2.java
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java Main2
Enter name
Debjit
Enter age
23
Enter accountbalamce
34
Enter movie title
emer
Enter age restriction
20
Enter cost
23
Can Debjit watch emer? true
Debjit is watching emer
Debjit has paid $23.0
Debjit's account balance after watching: $11.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ javac Main2.java
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java Main2
Enter name
Soham
Enter age
23
Enter accountbalamce
45
Enter movie title
emer
Enter age restriction
25
Enter cost
34
Can Soham watch emer? false
Soham cannot watch emer due to age or insufficient balance.
Soham's account balance after watching: $45.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ javac Main2.java
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java Main2
Enter name
Asawari
Enter age
18
Enter accountbalamce
10
```

```
Enter age restriction
20
Enter cost
23
Can Debjit watch emer? true
Debjit is watching emer
Debjit has paid $23.0
Debjit's account balance after watching: $11.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ javac Main2.java
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java Main2
Enter name
Soham
Enter age
23
Enter accountbalamce
45
Enter movie title
emer
Enter age restriction
25
Enter cost
34
Can Soham watch emer? false
Soham cannot watch emer due to age or insufficient balance.
Soham's account balance after watching: $45.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ javac Main2.java
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java Main2
Enter name
Asawari
Enter age
18
Enter accountbalamce
10
Enter movie title
emer
Enter age restriction
20
Enter cost
54
Can Asawari watch emer? false
Asawari cannot watch emer due to age or insufficient balance.
Asawari's account balance after watching: $10.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$
```

Program 2	
PROBLEM STATEMENT :	***Problem statement 2.*** The "User" class represents a social media user with attributes: username, password. The class should have a method to get username. The "Post" class represents a social media post with attributes such as postID, LikesCount, and CommentsCount. It should have methods to display no. of likes and comments for a post. The User class also has methods to like/comment on posts. The main method should create objects of the "User" and "Post" classes and demonstrate the use of their methods Update: Accepted password as a string as input. Your task is to determine if the input string is a valid password or not. For a string to be a valid password, it must satisfy all the conditions given below: (1) It should have at least 8 and at most 32 characters (2) It should start with an uppercase or lowercase letter (3) It should not have any of these characters: / \ = ' " (4) It should not have spaces It could have any character that is not mentioned in the list of characters to be avoided (points 3 and 4). Output True if the string forms a valid password and False otherwise.

PROGRAM:	`import java.util.Scanner;`
	
	`class User {`
	`private String username;`
	`private String password;`
	
	`public User(String username) {`
	`this.username = username;`
	`this.password = enterValidPassword();`
	`}`
	
	`private String enterValidPassword(){`
	`Scanner scanner = new Scanner(System.in);`
	`String newPassword;`
	
	`do {`
	`System.out.println("Enter a valid password (8-32 characters,`

```
starting with a letter, no special characters or spaces) : ");
newPassword = scanner.nextLine();
}
while (!isValidPassword(newPassword));
scanner.close();
return newPassword;
}
public static booleanisValid Password(String password) {

return password.length() >= 8 && password.length() <= 32 &&
(password.charAt(0) >= 'a' && password.charAt(0) <= 'A' ||
password.charAt(0) >= 'A');
}
public String getUsername() {
return username;
}
public void likePost(Post post) {
    post.like();
 }
public void commentOnPost(Post post, String comment){
    post.comment(comment);
}
class Post {
private int postID;
private int likesCount;
private int commentsCount;

public Post(int postID) {
    this.postID=postID;
    this.likesCount = 0;
    this.commentsCount = 0;
}
public void like() {
likesCount++;
}
public void comment(String comment) {
commentsCount++;
System.out.println("Comment on post" + postID + ":" + comment);
}
public int getLikesCount(){
return likesCount;
}
public int getCommentsCount() {
return commentsCount;
```

```
    }
  }
}
public class Social {
public static void main(String[] args) {
Scanner scanner = new Scanner(System.in);
System.out.print("Enter username: ");
String username = scanner.nextLine();

User user = new User(username);
Post post1 = new Post(1);
Post post2 = new Post(2);
System.out.println("User username: " + user.getUsername());

user.likePost(post1);
user.commentOnPost(post2, "Great post!");

System.out.println("Likes on post 1: " + postl.getLikesCount());
System.out.println("Comments on post 2: " +
post2.getCommentsCount());
scanner.close();
    }
}
```

RESULT:

```
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ javac Main1.java
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java Main1
Enter username: Debjit
Enter password: spit123
Enter post ID: 100
Number of likes for Post 100: 1
Number of comments for Post 100: 1
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$
```

CONCLUSION:	I have learnt about the constructors and passing of objects of the parameters of the function. I have also learnt about private class.