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Experiment No.	1b

AIM:	Program on Encapsulation: Write a program to demonstrate classes and objects
Program 1	
PROBLEM STATEMENT :	<p>Write a program in Java to maintain the information of Movies which includes the information of :</p> <p>1-name of movie</p> <p>2- type of movie(action , thriller , comedy ,drama)</p> <p>3- Hero name</p> <p>4- Heroine</p> <p>5- budget in Rs.</p> <p>include method to</p> <p>1- display this information</p> <p>Q.1 Write a program to accept the information of movies from the user and display the same.</p>

	Q.2 Create two objects of the same and Display the movie name with the highest budget.
PROGRAM:	<pre> import java.util.*; class Movie { String name; String genre; String hero; String heroine; int budget; void inpMovie() { Scanner sc=new Scanner(System.in); System.out.println("Movie name : "); name=sc.nextLine(); System.out.println("Please select genre: "); System.out.println(" Action"); System.out.println(" Comedy"); System.out.println(" Drama"); System.out.println(" Thriller"); genre=sc.nextLine(); while(true) { if(genre.equalsIgnoreCase("action") genre.equalsIgnoreCase("comedy") genre.equalsIgnoreCase("drama") genre.equalsIgnoreCase("thriller")) { break; } else System.out.println("Invalid genre. Please try again."); genre=sc.nextLine(); } System.out.println("Name of hero: "); hero=sc.nextLine(); System.out.println("Name of heroine: "); </pre>

```

        heroine=sc.nextLine();
        System.out.println("Budget of movie: ");
        budget=sc.nextInt();
    }

}

class MovieBase
{
    public static void main(String[] args)
    {
        int l, i, j;
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter number of movies to be
added:");
        l=sc.nextInt();
        Movie[] m= new Movie[l];
        for(i=0; i<l; i++)
        {
            m[i] = new Movie();
            m[i].inpMovie();
        }
        Movie temp = new Movie();
        for(i=0;i<l;i++)
        {
            for(j=i+1; j<l; j++)
            {
                temp.name=null;
                temp.genre=null;
                temp.hero=null;
                temp.heroine=null;
                temp.budget=0;
                if (m[i].budget > m[j].budget)
                {
                    //Movie m[l+1]= (Movie)
                    m[i].clone();
                    //Movie m[i]= (Movie) m[j].clone();
                    //Movie m[j]= (Movie)
                    m[l+1].clone();
                }
            }
        }
    }
}

```

```

temp=m[i];
m[i]=m[j];
m[j]=temp;
    }
}
}
System.out.println("Sorted list according to budget:");
System.out.println("Sr No.\t\tName\t\tGenre\t\tHero\t\t
tHeroine\t\tBudget");
for(i=0;i<l;i++)
{
    System.out.println((i+1)+"\t\t"+m[i].name+"\t\t
t"+m[i].genre+"\t\t"+m[i].hero+"\t\t"+m[i].heroine+"\t\t
t"+m[i].budget);
}
}
}

```

```
lenovo@lenovo-ThinkCentre-neo-50s-Gen-3:~/Desktop/2023300065$ javac MovieBase.java
^[[Alenovo@lenovo-ThinkCentre-neo-50s-Gen-3:~/Desktop/2023300065$ java MovieBase
Enter number of movies to be added:
2
Movie name :
Fighter
Please select genre:
Action
Comedy
Drama
Thriller
Action
Name of hero:
Hrthik
Name of heroine:
Deepika
Budget of movie:
10000
Movie name :
Jawan
Please select genre:
Action
Comedy
Drama
Thriller
Thriller
Name of hero:
Shah Rukh Khan
Name of heroine:
Alia
```

RESULT:

```

Action
Comedy
Drama
Thriller
Action
Name of hero:
Hrthik
Name of heroine:
Deepika
Budget of movie:
10000
Movie name :
Jawan
Please select genre:
Action
Comedy
Drama
Thriller
Thriller
Name of hero:
Shah Rukh Khan
Name of heroine:
Alia
Budget of movie:
100
Sorted list according to budget:
Sr No.      Name      Genre      Hero      Heroine      Budget
1           Jawan      Thriller      Shah Rukh Khan      Alia      100
2           Fighter      Action      Hrthik      Deepika      10000
lenovo@lenovo-ThinkCentre-neo-50s-Gen-3:~/Desktop/2023300065$

```

Program 2

PROBLEM STATEMENT :

Write a Java program to Generate marksheets for student

Data members: Name, Rollno, Subje1 marks, Subj2 Marks, Total, Grade

Assign grade

Total: <40---F

40 To 60----B grade

61 To 75----A grade

75>---O grade

3. Display the mark sheet of the student

4. Create 3 objects and display the name of a student having the highest grade.

PROGRAM:

```
import java.util.*;
```

```

class Movie
{
    String name;
    String genre;
    String hero;
    String heroine;
    int budget;

    void inpMovie()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Movie name : ");
        name=sc.nextLine();
        System.out.println("Please select genre: ");
        System.out.println(" Action");
        System.out.println(" Comedy");
        System.out.println(" Drama");
        System.out.println(" Thriller");
        genre=sc.nextLine();
        while(true)
        {
            if(genre.equalsIgnoreCase("action") ||
genre.equalsIgnoreCase("comedy") ||
genre.equalsIgnoreCase("drama") ||
genre.equalsIgnoreCase("thriller") )
            {
                break;
            }
            else
                System.out.println("Invalid genre. Please try
again.");
            genre=sc.nextLine();
        }
        System.out.println("Name of hero: ");
        hero=sc.nextLine();
        System.out.println("Name of heroine: ");
        heroine=sc.nextLine();
        System.out.println("Budget of movie: ");
        budget=sc.nextInt();
    }
}

```

```

}

class MovieBase
{
    public static void main(String[] args)
    {
        int l, i, j;
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter number of movies to be
added:");
        l=sc.nextInt();
        Movie[] m= new Movie[l];
        for(i=0; i<l; i++)
        {
            m[i] = new Movie();
            m[i].inpMovie();
        }
        Movie temp = new Movie();
        for(i=0;i<l;i++)
        {
            for(j=i+1; j<l; j++)
            {
                temp.name=null;
                temp.genre=null;
                temp.hero=null;
                temp.heroine=null;
                temp.budget=0;
                if (m[i].budget > m[j].budget)
                {
                    //Movie m[l+1]= (Movie)
m[i].clone();

                    //Movie m[i]= (Movie) m[j].clone();
                    //Movie m[j]= (Movie)
m[l+1].clone();

                    temp=m[i];
                    m[i]=m[j];
                    m[j]=temp;
                }
            }
        }
    }
}

```



```

    }
}
System.out.println("Sorted list according to budget:");
System.out.println("Sr No.\t\tName\t\tGenre\t\tHero\t\t
tHeroine\t\tBudget");
for(i=0;i<l;i++)
{
    System.out.println((i+1)+"\t\t"+m[i].name+"\t\t
t"+m[i].genre+"\t\t"+m[i].hero+"\t\t"+m[i].heroine+"\t\t
t"+m[i].budget);
}
}
}

```

RESULT:

```

ENTER THE NAME:
xyz
ENTER THE ROLLNO:
10
ENTER THE MARKS OF FRIST SUB:
10
ENTER THE MARKS OF SECOND SUB:
290
ENTER THE TOTAL MARKS:
300

```

```

MARKSHEET :
NAME      :a
ROLLNO    :1
SUBJECT 1 :50
SYBJECT 2 :15
TOTAL MARKS :64
GRADE :A

```

```

MARKSHEET :
NAME      :abc
ROLLNO    :2
SUBJECT 1 :50
SYBJECT 2 :40
TOTAL MARKS :90
GRADE :0

```

```

MARKSHEET :
NAME      :xyz
ROLLNO    :10
SUBJECT 1 :10
SYBJECT 2 :290
TOTAL MARKS :300
GRADE :0

```

THE HIGHEST GRADE IS 0

CONCLUSION:

During lab session I have learnt about the different various classes and objects. I also learnt about encapsulation