Assignment :-8

Q1 write a Java Program to create a class called "Person" with a name and age attribute. create two Instances of the "Person" class, set their attributes using the constructor, and print their name and age.

2 write a Java Program to create a class called "Rectangle" with width and height attributes. Calculate the area and perimeter of the rectangle using 2 different methods.

3 write a Java program to create a class called "employee" with a name, salary and hire date attributes, and a method to calculate years of service.

4 write a Java Program to create a class called "movie" with attributes for title, director, actors and reviews, and methods for adding and retrieving reviews.

5 write a Java Program to create a class called "circle" with a radius attribute. You can access and modify this attribute. Calculate the area and circumference of the circle.

Assignment :- 8
Solution

```java
1  import java.lang.*;
   import java.util.*;

   public class Person {
       String name;
       int age;

       Person (String inpName, int inpAge) {
           name = inpName;
           age = inpAge;
       }
       public void display() {
           System.out.println ("Name:- " + name + "and age:"
                                + age + "\n");
       }
       public static void main (String args[]) {
           Scanner sc = new Scanner (System.in);
           System.out.print ("Enter name:-");
           String name = sc.nextLine();
           System.out.print ("Enter age:-");
           int age = sc.nextInt();
           Person P1 = new Person (name, age);
           P1.display();

           sc.nextLine();
           System.out.print ("Enter name :- ");
           name = sc.nextLine();
           System.out.print ("Enter age :- ");
           age = sc.nextInt();
           Person P2 = new Person (name, age);
           P2.display();
           sc.close();
       }
   }
```

output :-
Enter name :- Rajesh Rana
Enter age :- 20
Name :- Rajesh Rana and age :- 20

Enter name :- Subhankar kamila
Enter age :- 19
Name :- Subhankar kamila and age :- 19

2

```java
import Java.lang.*;
import Java.util.*;
public class Rectangle {
    int width, height;
    Rectangle (int w, int h) {
        width = w;
        height = h;
    }
    public void area() {
        System.out.println("Area :- " + (width * height));
    }
    public void perimeter() {
        System.out.println("perimeter :- " + (2 * (width + height)));
    }
    public static void main (String args[]) {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter the width of the rectangle:-
        int width = sc.nextInt();
        System.out.print("Enter the height of the rectangle:-");
        int height = sc.nextInt();
        Rectangle r = new Rectangle (width, height);
        r.area();
```

```java
            r.perimeter();
            sc.close();
        }
    }
```

output:-
Enter the width of the rectangle :- 2
Enter the height of the rectangle :- 4
Area :- 8
perimeter :- 12

3
```java
import java.lang.*;
import java.util.*;
public class Employee {
    String name;
    int salary, hireYear;
    Employee (String n, int s, int h) {
        name = n;
        salary = s;
        hireYear = h;
    }
    public void yearOfService (int currentYear) {
        System.out.println ("You have worked for "+
                (currentYear-hireYear)+ "years in
                    the company.");
    }
    public void display (Scanner sc) {
        System.out.print("Enter current year:-");
        int currentYear = sc.nextInt();
        System.out.println("\nEmployee Details:-");
        System.out.println("Name:- "+ name);
```

```java
            System.out.println("salary :- " + salary);
            yearofservice (currentyear);
        }

        public static void main (String args[]){
            Scanner sc = new Scanner (System.in);
            System.out.print ("Enter name :-");
            String name = sc.nextLine();
            System.out.print ("Enter salary :-");
            int salary = sc.nextInt();
            System.out.print ("Enter hire year :-");
            int hireyear = sc.nextInt();
            Employee emp = new Employee (name, salary,
                                           hireyear);
            emp.display (sc);
            sc.close();
        }
    }
```

output:-
Enter name:- Rajesh Rana
Enter salary :- 10000
Enter hire year :- 2004
Enter current year :- 2025

Employee Details:-
Name:- Rajesh Rana
Salary:- 10000
You have worked for 21 years in the company.

```java
import java.lang.*;
import java.util.Scanner;
public class Movie {
    String title, director, actor;
    String reviews[];
    int reviewCount;
    Movie (Scanner sc, String t, String d, String a) {
        title = t;
        director = d;
        actor = a;
        addReview (sc);
    }
    public void addReview (Scanner sc) {
        System.out.print ("Enter number of reviews you
                    want to allow:- ");
        int maxReviews = sc.nextInt();
        reviews = new String [maxReviews];
        sc.nextLine();
        for (int i=1; i<= maxReviews; i++) {
            System.out.print ("Enter Review" + i
                            ":- ");
            String review = sc.nextLine();
            reviews [reviewCount] = review;
            reviewCount ++;
        }
    }
    public String[] getReviews() {
        String res[] = new String [reviewCount];
        for (int i=0; i< reviewCount; i++) {
            res[i] = reviews[i];
        }
        return res;
    }
}
```

```java
public void display() {
    System.out.println("\nMovie Details :-");
    System.out.println("Title :- " + title);
    System.out.println("Director :-" + director);
    System.out.println("Actor :-" + actor);
    System.out.println("Reviews :-");
    for (String review : getReviews()) {
        System.out.println(" - " + review);
    }
}
}

public static void main(String args[]) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter title :-");
    String title = sc.nextLine();
    System.out.print("Enter director :- ");
    String director = sc.nextLine();
    System.out.print("Enter actor :- ");
    String actor = sc.nextLine();
    Movie movie = new Movie(sc, title, director, actor);
    movie.display();
    sc.close();
}
}
```

OUTPUT :-

Enter title :- Court - State Vs. A Nobody

Enter director :- Ram Jagadeesh

Enter actor :- Harish Roshan

Enter Number of reviews you want to allow :- 3

Enter review 1 :- This is a movie you shouldn't miss !

Enter review 2 :- The story and characters are really interesting.

Enter review 3 :- The movie is one of the most accurate courtroom drama.

Movie Details :-
Title :- Court- State vs. A Nobody
Director :- Ram Jabbudeesh
Actor :- Harish Roshan
Reviews :-
- This is a movie you shouldn't miss!
- The story and characters are really interesting.
- The movie is one of the most accurate Courtroom drama

```java
import Java.lang.*;
import Java.util.*;
public class Circle {
    float radius;
    Circle (int r) {
        radius = r;
    }
    public void area() {
        System.out.printf("Area :- %.2f\n", (3.14 * radius
                                             * radius));
    }
    public void circumference() {
        System.out.printf("Circumference :- %.2f\n\n",
                          (2 * 3.14 * radius));
    }
    public void setRadius (int r) {
        radius = r;
    }
```

```
Public static void main (String args[]) {
    Scanner SC = new Scanner (System.in);
    System.out.print ("Enter the radius of the
                        circle :- ");
    Circle c = new Circle (radius);
    c.area();
    c.circumference();
    System.out.print ("Enter the new radius of the
                        circle :- ");
    radius = SC.nextInt();
    c.SetRadius (radius);
    c.area();
    c.circumference();
    SC.close();
    }
}
```

output :-

Enter the radius of the circle :- 5
Area :- 78.50
Circumference :- 31.40

Enter the new radius of the circle :- 6
Area :- 113.04
Circumference :- 37.68