

OOP PROGRAMS

```
/*
write a program that take a number from user and display its square on a screen?
```

```
*/
```

```
package firstprogram;

import java.util.Scanner;

public class Firstprogram {

    public static void main(String[] args)

    {

        int a;

        Scanner input = new Scanner(System.in);

        a = input.nextInt();

        int sq = a*a;

        System.out.println("square of a = " + sq);

    }

}
```

```
/*
write a program that take two number from user and display its sum on a screen?
```

```
*/
```

```
package p2;
```

```
import java.util.Scanner;

public class P2 {

    public static void main(String[] args) {

        int a;

        int b;

        Scanner input = new Scanner(System.in);

        a = input.nextInt();

        b = input.nextInt();

        int sum = a+b;

        System.out.println("sum of a+b is = " + sum);

    }

}

/*
write a program that take a number from user and display it is even or odd on a screen by using if else?

*/
package p3;

import java.util.Scanner;

public class P3 {

    public static void main(String[] args) {

        int a;

        Scanner input = new Scanner(System.in);

        a = input.nextInt();

    }

}
```

```
if(a%2==0)
System.out.println(a+"is Even number");
else
System.out.println(a+"is Odd number");
}
}
/*

```

write a program that take a number from user and display its factorial using loop?

```
*/
package p7;
import java.util.Scanner;
public class P7 {
    public static void main(String[] args) {
        Scanner input=new Scanner(System.in);
        int a=1,n;
        int fact=1;
        n=input.nextInt();
        do
        {
            fact=fact*a;
            a=a+1;
        }
        while(a<=n);
        System.out.println("Factorial of number is="+fact);
    }
}
```

```
}
```

```
}
```

```
/*
```

**write a program that make a class Rectangle with following data members
height(float), width(float).**

Declare a new object and store data in height and width of object. display data on screen?

```
*/
```

```
package p5;
```

```
public class P5 {
```

```
    public static void main(String[] args) {
```

```
        Rectangle d1 = new Rectangle();
```

```
        d1.height=(float) 10.5;
```

```
        d1.width=(float)12.8;
```

```
        System.out.println("Height of rectangle is="+d1.height);
```

```
        System.out.println("width of rectangle is="+d1.width);
```

```
    }
```

```
}
```

```
class Rectangle{
```

```
    float height;
```

```
    float width;
```

```
}
```

```
/*
```

Write a program that declare a class Dog with follwoing data member (name, color, age) and 2 functions Bark() and Walk().

Bark function display the message " Dog is barking" and walk function display the message " Dog is walking".

make an object and take data from user and then dispaly all data on screen.

```
*/
```

```
package p8;  
import java.util.Scanner;  
public class P8 {  
    public static void main(String[] args) {
```

```
Dog d1=new Dog();  
Scanner input = new Scanner(System.in);  
d1.name = input.next();  
System.out.println("Age of the dog is="+d1.name);  
d1.color = input.next();  
System.out.println("color of the dog is="+d1.color);  
d1.age = input.nextInt();
```

```
System.out.println("Name of the dog is="+d1.name);
```

```
d1.bark();
```

```
d1.walk();
```

```
}
```

```
}
```

```
class Dog{
```

Prof: Irfan Ali Muzammal

```
String name;  
String color;  
int age;  
void bark(){  
    System.out.println("Dog is barking");  
}  
void walk(){  
    System.out.println("Dog is walking");  
}  
/*
```

**Write a program that make a class Person with following data members
name(String), age(int), id(int).**

Make 2 object of class Person .Take data from user and then display on screen .

```
*/
```

```
package p9;  
import java.util.Scanner;  
public class P9 {  
    public static void main(String[] args) {  
        Scanner input = new Scanner(System.in);  
        Person d1 = new Person();  
        d1.name = input.next();  
        d1.age = input.nextInt();
```

```
d1.id=input.nextInt();

System.out.println("Name of the perpon is="+d1.name);

System.out.println("Age of the dog is="+d1.age);

System.out.println("Id of the dog is="+d1.id);

Person d2 = new Person ();

d2.name =input.next();

d2.age=input.nextInt();

d2.id=input.nextInt();

System.out.println("Name of the person is="+d1.name);

System.out.println("Age of the dog is="+d1.age);

System.out.println("Id of the dog is="+d1.id);

}

}

class Person

{

String name;

int age;

int id ;

}

/*
```

write a program that declares a class with one integer data member

and two member functions `takeData()` and `showData()`.

`takeData()` for taking input from user and `showData()` for displaying output.

Declare object of that class and call both functions.

```
*/  
  
package p11;  
  
import java.util.Scanner;  
  
public class P11 {  
  
    public static void main(String[] args) {  
  
        mobile m1 =new mobile();  
  
        m1.takeData();  
  
        m1.showData();  
  
    }  
  
}  
  
class mobile{  
  
    Scanner input = new Scanner(System.in);  
  
    int price;  
  
    void takeData(){  
  
        System.out.print("Enter the price of the mobile:");  
  
        price=input.nextInt();  
  
    }  
  
    void showData(){  
  
        System.out.println("The price of the mobile is:"+price);  
  
    }  
  
}
```

Prof: Irfan Ali Muzammal

```
/*
```

Write a program that declares a class with 3 integer data members. write three member functions getData(), sum() and showData(). getData() function take input from user.

sum() calculate the sum of numbers. and showData() display all 3 numbers and their sum on screen.

Declare object of that class and call all the functions.

```
*/
```

```
package p13;  
  
import java.util.Scanner;  
  
public class P13 {  
  
    public static void main(String[] args) {  
  
        Addition obj = new Addition();  
  
        obj.getData();  
  
        obj.sum();  
  
        obj.showData();  
  
    }  
  
}  
  
class Addition{  
  
    Scanner input = new Scanner(System.in);  
  
    int a,b,c,sum;  
  
    void getData(){  
  
        System.out.print("Enter the value of a:");  
  
    }
```

Prof: Irfan Ali Muzammal

```
a=input.nextInt();

System.out.print("Enter the value of b:");

b=input.nextInt();

System.out.print("Enter the value of c:");

c=input.nextInt();

}

void sum(){

    sum=a+b+c;

}

void showData(){

    System.out.println("The value of a:"+a);

    System.out.println("The value of b:"+b);

    System.out.println("The value of c:"+c);

    System.out.println("total sum:"+sum);

}

}
```

/*

Write a class CIRCLE with one data member RADIUS. Write three member functions, getRadius() use to

take radius from user , calculateArea() use to calculate and display the area of circle , calculateCircumference() use to calculate the circumference of circle. declare object of CIRCLE class

and call all three functions.

Prof: Irfan Ali Muzammal

```
*/  
package p12;  
  
import java.util.Scanner;  
  
public class P12 {  
  
    public static void main(String[] args) {  
  
        CIRCLE c1 = new CIRCLE();  
  
        c1.getRadius();  
  
        c1.calculateArea();  
  
        c1.calculateCircumference();  
  
    }  
}  
  
class CIRCLE{  
  
    Scanner input =new Scanner(System.in);  
  
    float RADIUS,Area,Circumference;  
  
  
  
    void getRadius(){  
  
        System.out.print("Enter the Radius of the circle:");  
  
        RADIUS=input.nextInt();  
  
    }  
  
    void calculateArea(){  
  
        Area=(float)3.14*RADIUS*RADIUS;  
  
        System.out.println(" The area of the circle is :" + Area);  
  
    }  
}
```

Prof: Irfan Ali Muzammal

```

void calculateCircumference(){

    Circumference =(float) ((float)2*3.14*RADIUS);

    System.out.println(" The Circumference of the circle is :" +Circumference );

}

}

/*

```

Write a class Book with three data members BookID, Pages and Price. It also contains the following

member functions:

- * **get()** function: to take input from user
- * **show()** function: display data
- * **getPrice()** function: return the value of Price

the program should create two object of book class. take input from user using get(). find most costly

Book using getPrice() and if-else. then display the data of most costly book on screen using show().

```
*/
```

```

package p14;

import java.util.Scanner;

public class P14 {

    public static void main(String[] args) {

        Book b1=new Book();

        b1.get();

        b1.show();
    }
}
```

```
b1.getprice();  
  
Book b2=new Book();  
  
b2.get();  
  
b2.show();  
  
b2.getprice();  
  
}  
  
}  
  
class Book{  
  
Scanner input = new Scanner(System.in);  
  
int BookID;  
  
int pages;  
  
int price1,price2;  
  
void get(){  
  
System.out.print("Enter the bookID:");  
  
BookID=input.nextInt();  
  
System.out.print("Enter the pages of the book:");  
  
pages=input.nextInt();  
  
System.out.print("Enter the price of the book1:");  
  
price1=input.nextInt();  
  
System.out.print("Enter the price of the book2:");  
  
price2=input.nextInt();  
  
}
```

```
void show(){  
    System.out.println("The ID of the book is:"+BookID);  
    System.out.println("The pages of the book is:"+pages);  
    System.out.println("The price of the book is:"+price1);  
    System.out.println("The price of the book is:"+price2);  
}
```

```
void getprice(){  
  
    if(price1>price2)  
    {  
        System.out.println("The price of book1 is greater than Book2");  
    }  
    else  
    {  
        System.out.println("The price of book2 is greater than Book1");  
    }  
}  
/*
```

Write a Class RESULT that contains roll number , name , and marks of 3 subjects. the marks are stored

in an array of size 3. The class also contains the following member functions.

* **input():** take roll number , name , and marks of three subject from user.

* **total():** find the sum of marks of three subjects.

* **average():** find average of marks

* **show():** diaplay name, roll number , sum , and average.

*/

```
package p15;
```

```
import java.util.Scanner;
```

```
public class P15 {
```

```
    public static void main(String[] args) {
```

```
        result r1=new result();
```

```
        r1.input();
```

```
        r1.total();
```

```
        r1.average();
```

```
        r1.show();
```

```
    }
```

```
}
```

```
class result{
```

```
    Scanner input = new Scanner(System.in);
```

```
    int rollnumber;
```

```
    int math,phy,comp,marks;
```

```
    float Avg;
```

```
    String name;
```

```
    void input(){
```

```
System.out.print("Enter the name:");
name=input.next();

System.out.print("Enter the rollnumber:");
rollnumber=input.nextInt();

System.out.print("Enter the marks of math:");
math=input.nextInt();

System.out.print("Enter the marks of phy:");
phy=input.nextInt();

System.out.print("Enter the marks of comp:");
comp=input.nextInt();

}

void total()

{
marks=math+phy+comp;

System.out.println("total marks:"+marks);

}

void average(){

Avg=(float)marks/3;

}

void show(){

System.out.println("Name of the student is:"+name);

System.out.println("RollNumbe is:"+rollnumber);

System.out.println("Total marks is:"+marks);

}
```

```
System.out.println("Average:"+Avg);
}

}

/*
Write a class that displays a message on screen whenever an object of that class is created.
*/
package p16;

public class P16 {

    public static void main(String[] args) {
        student s1 = new student();
        s1.fun();
    }
}

class student{
    void fun(){
        System.out.println("A message display on screen");
    }
}
/*

```

Write a class Person that contains two fields , age(integer) and name(string). take input from

user in age and name, whenever object of Person is created. class also contains a function show()

that dispaly the data on screen.

*/

```
package p10;
```

```
import java.util.Scanner;
```

```
public class P10 {
```

```
    public static void main(String[] args) {
```

```
        Person p1 = new Person();
```

```
        Scanner input = new Scanner(System.in);
```

```
        System.out.println("Enter the person age:");
```

```
        p1.age=input.nextInt();
```

```
        System.out.println("Enter the name of the person:");
```

```
        p1.name=input.next();
```

```
        p1.Show();
```

```
}
```

```
}
```

```
class Person {
```

```
    int age;
```

Prof: Irfan Ali Muzammal

```
String name;  
  
void Show(){  
  
    System.out.println("Age of the person is:"+age);  
  
    System.out.println("Name of the person is:"+name);  
  
}  
  
}  
  
// Write a program in java that prints “Hello world” on screen.
```

```
package p17;  
  
public class P17 {  
  
    public static void main(String[] args) {  
  
        System.out.println("Hello Word");  
  
    }  
  
}
```

/*
Write a program in java that initialize variable of primitive data types and display on screen. (byte, int, char, float, double, long....)

```
*/  
  
package p18;  
  
public class P18 {  
  
    public static void main(String[] args) {  
  
        byte a= 4;  
  
        int b=2;
```

```
char c='a';
float d=1.2f;
double e = 221.0;
long f= 2^6;

System.out.println("The value of byte:"+ a);
System.out.println("The value of int:"+ b);
System.out.println("The value of char:"+c);
System.out.println("The value of float:"+d);
System.out.println("The value of double:"+e);
System.out.println("The value of long:"+f);

}

}

/*
Write a program that create an object of scanner class. And take input from user in all variable of primitive data types and display on screen. (byte, int, char, float, double, long....)
```

```
package p19;
import java.util.Scanner;
public class P19 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter the value of byte:");
    }
}
```

```
byte a=input.nextByte();

System.out.print("Enter the value of int:");

int b=input.nextInt();

System.out.print("Enter the value of string:");

String c = input.next();

System.out.print("Enter the value of Float:");

float d=input.nextFloat();

System.out.print("Enter the value of Double :");

double e=input.nextDouble();

System.out.print("Enter the value of Long :");

long f=input.nextLong();

System.out.println("The value of byte is:"+a);

System.out.println("The value of int is:"+b);

System.out.println("The value of String is:"+c);

System.out.println("The value of float is:"+d);

System.out.println("The value of double is:"+e);

System.out.println("The value of long is:"+f);

}

}

/*
Write a program in java that define a class named “Demo” with empty body. Create an object of Demo class in main function.

*/

```

```
package p20;  
public class P20 {  
    public static void main(String[] args) {  
        Demo d1 =new Demo();  
    }  
}
```

```
}  
class Demo{  
    //empty body  
}  
/*
```

Write a class “Person” in java that contain following properties. name(string), age(int), and weight(float). Create object of Person in main class. Assign values to all properties / fields in main function. (using = operator). Display values on screen

```
*/  
package p21;  
public class P21 {  
    public static void main(String[] args) {  
        Person p1 = new Person();  
        p1.name ="shanzay";  
        p1.age= 19;  
        p1.weight=45.0f;  
        System.out.println("Name of the person:"+p1.name);  
        System.out.println("Age of the person:"+p1.age);  
    }  
}
```

Prof: Irfan Ali Muzammal

```
System.out.println("weight of the person:"+p1.weight);

}

class Person{

String name;

int age;

float weight;

}

/*

```

Write a class Car in java with followings fields color(string), price(int), model(string) and engine power (int). create 2 objects of Car in main function. Initialize values to both object's filed. And then display on screen.

```
*/  
  
package p22;  
  
public class P22 {  
  
    public static void main(String[] args) {  
  
        car c1 =new car();  
  
        c1.color="white";  
  
        c1.price=2699000;  
  
        c1.model= "HONDA";  
  
        c1.enginePower=117;  
  
        car c2= new car();  
  
        c2.color="Black";  
  
        c2.price=4399000;  
  
        c2.model= "CIVIC";  
  
    }  
}
```

Prof: Irfan Ali Muzammal

```
c2.enginePower=158;

System.out.println("The color of the car is:"+c1.color);

System.out.println("The price of the car is:"+c1.price);

System.out.println("The model of the car is:"+c1.model);

System.out.println("The enginepower of the car is:"+c1.enginePower);

System.out.println("The color of the car is:"+c2.color);

System.out.println("The price of the car is:"+c2.price);

System.out.println("The model of the car is:"+c1.model);

System.out.println("The enginepower of the car is:"+c2.enginePower);

}

}

class car {

String color;

int price;

String model;

int enginePower;

}

/*

```

Write a class in java named “Display” that contains a function named “show” with void return type and function takes no parameters. Create object of Display class in main function. Call the function show.

```
*/  
package p23;
```

```
public class P23 {
```

Prof: Irfan Ali Muzammal

```
public static void main(String[] args) {  
    Display d1 =new Display();  
    d1.show();  
}  
}  
  
class Display{  
void show(){  
}  
}  
/*
```

Write a class Student in java with following attributes name, age, roll no and a method/ function named show(). Show function display the data on screen when it is call. Create object of student in main method, initialize values to object, display values on screen by calling show method.

```
*/  
  
package p24;  
  
public class P24 {  
    public static void main(String[] args) {  
        Student s1 =new Student();  
        s1.name="Shanzay Asghar";  
        s1.age=19;  
        s1.rollno=16;  
        s1.show();  
    }  
}
```

Prof: Irfan Ali Muzammal

```
}

class Student{

String name;

int age;

int rollno;

void show(){

System.out.println("Name of the student is:"+name);

System.out.println("Age of the student is:"+age);

System.out.println("Roll number of the student is:"+rollno);

}

}

/*

```

Write a class Rectangle in java that has followings attributes height(float), width(float). Class also contains some methods. setData() method set or stores height and width of object of Rectangle by taking 2 parameters at calling time. showData() method display height and width on screen.

```
*/



package p25;

public class P25 {

    public static void main(String[] args) {

        Rectangle r1 =new Rectangle();

        r1.setdata(15.3f, 12.2f);

        r1.showData();

    }

}
```

```

}

class Rectangle{

float height,width;

void setdata(float h,float w){

height=h;

width=w;

}

void showData(){

System.out.println("The height of the rectangle is: "+height);

System.out.println("The width of the rectangle is:" +width);

}

}

/*

```

Write a class Rectangle in java that has followings attributes height(float), width(float), area(double), and circumference(double). Class also contains some methods. setData() method set or stores height and width of object of Rectangle by taking 2 parameters at calling time. findArea() method calculate the area.

findCircumference() method calculate the circumference of rectangle.showData() method display height , width , area and circumference on screen.

```
*/
```

```

package p26;

public class P26 {

    public static void main(String[] args) {

        Rectangle r1=new Rectangle();

        r1.setData(12.5f, 24.5f);
    }
}
```

Prof: Irfan Ali Muzammal

```
r1.FindArea();  
r1.Circumference();  
r1.showData();  
}  
}  
  
class Rectangle{  
float height,width;  
double area,circumference;  
void setData(float h,float w){  
height=h;  
width=w;  
}  
void FindArea(){  
area=height*width;  
}  
void Circumference(){  
circumference=2*(height+width);  
}  
void showData(){  
System.out.println("Height of the rectangle is:"+height);  
System.out.println("Width of the rectangle is:"+width);  
System.out.println("Area of a rectangle is:"+area);  
System.out.println("Circumference of the rectangle is:"+circumference);  
}  
}
```

```
/*
```

Write a class Rectangle in java that has followings attributes height(float), width(float), area(double), and circumference(double). Class also contains some methods. getData() method take height and width of object of Rectangle from user. findArea() method calculate the area. findCircumference() method calculate the circumference of rectangle.showData() method display height , width , area and circumference on screen.

```
*/
```

```
package p27;  
  
import java.util.Scanner;  
  
public class P27 {  
  
    public static void main(String[] args) {  
  
        Rectangle r1=new Rectangle();  
  
        r1.getData();  
  
        r1.FindArea();  
  
        r1.Circumference();  
  
        r1.showData();  
    }  
}  
  
class Rectangle{  
  
    Scanner input=new Scanner(System.in);  
  
    float height,width;  
  
    double area,circumference;  
  
    void getData(){  
  
        System.out.print("Enter the height of rectangle:");  
    }
```

Prof: Irfan Ali Muzammal

```
height=input.nextFloat();

System.out.print("Enter the width of rectangle:");

width=input.nextFloat();}

void FindArea(){

area=height*width;

}

void Circumference(){

circumference=2*(height+width);

}

void showData(){

System.out.println("Height of the rectangle is:"+height);

System.out.println("Width of the rectangle is:"+width);

System.out.println("Area of a rectangle is:"+area);

System.out.println("Circumference of the rectangle is:"+circumference);

}

}

/*

```

Write a class Marks with three data members to store three marks. With four member functions takeMarks() to input three marks ,sum() to calculate and return total of marks, avg() to find and return average of marks. DisplayAll() to show all marks , their sum and average on screen.

```
*/
```

```
package p28;

import java.util.Scanner;

public class P28 {
```

Prof: Irfan Ali Muzammal

```
public static void main(String[] args) {  
    Marks m1 =new Marks();  
    m1.Takemarks();  
    m1.sum();  
    m1.avg();  
    m1.DisplayAll();  
}  
}  
  
class Marks{  
    Scanner input = new Scanner(System.in);  
    int math,phy,comp,Totalmarks,avg;  
    void Takemarks(){  
        System.out.print("Enter marks of math:");  
        math=input.nextInt();  
        System.out.print("Enter marks of phy:");  
        phy=input.nextInt();  
        System.out.print("Enter marks of comp:");  
        comp=input.nextInt();  
    }  
    void sum(){  
        Totalmarks =math+phy+comp;  
        System.out.println("Totalmarks="+Totalmarks);  
    }  
    void avg(){  
        avg=Totalmarks/3;  
    }  
}
```

```

System.out.println("Average="+avg);

}

void DisplayAll(){

System.out.println("You enter the marks of Maths:"+math);

System.out.println("You enter the marks of physics:"+phy);

System.out.println("You enter the marks of Computer:"+comp);

System.out.println("Totalmarks="+Totalmarks);

System.out.println("Average="+avg);

}

}

/*

```

Write a class Person with one attribute age(int). Also contain some functions.

defaultAge() use to set value of age as zero. takeAge() use to take age as input from user. checkAge() use to test value of age. If value of age is greater than 18 , then store in attribute age. Otherwise set value as zero. displayAge() use to show the value of age on screen.

```
*/
```

```

package p29;

import java.util.Scanner;

public class P29 {

    public static void main(String[] args) {

        Person p1 =new Person();

        p1.Defaultage(0);

        p1.takeage();
    }
}
```

Prof: Irfan Ali Muzammal

```
p1.checkage();  
p1.displayage();  
}  
}  
  
class Person{  
    Scanner input= new Scanner(System.in);  
    int age;  
    void Defaultage(int a){  
        age=a;  
        System.out.println(a);  
    }  
    void takeage(){  
        System.out.print("Enter the age:");  
        age=input.nextInt();  
        System.out.println("You enter the age:"+ age);  
    }  
    void checkage(){  
        if(age>18)  
        {  
            System.out.println("you enter the age is greater then 18");  
        }  
        else{  
            System.out.println("you enter the age is less then 18:");  
        }  
    }  
}
```

```
void displayage(){  
    System.out.println("The age is :" + age);  
}  
}  
/*
```

Write a class Square with length as a field. setLength() use to set length 0.0 as default. getLength() use to take input from user and also check whether value of length is greater then 0.0 or not. calculateArea() use to calculate the area and display on screen. calculateCircumference() use to find and display circumference.

```
*/
```

```
package p30;  
  
import java.util.Scanner;  
  
public class P30 {  
  
    public static void main(String[] args) {  
        square s1 = new square();  
        s1.setLength(0);  
        s1.getLength();  
        s1.calculateArea();  
        s1.calculateCircumference();  
    }  
}
```

```
class square {  
    Scanner input = new Scanner(System.in);
```

Prof: Irfan Ali Muzammal

```
float lenght,area,Circumference;  
  
void setLenght(float l){  
    lenght=l;  
    System.out.println(l);  
}  
  
void getLength(){  
    System.out.print("Enter the lenght:");  
    lenght=input.nextFloat();  
    if(lenght>0.0)  
        System.out.println("Lenght is greater than 0.0");  
    else  
        System.out.println("Lenght is not greater than 0.0");  
}  
  
void calculateArea(){  
    area=lenght*lenght;  
    System.out.println("Area of square is:"+area);  
}  
  
void calculateCircumference(){  
    Circumference=4*lenght;  
    System.out.println("Circumference of square is:"+Circumference);  
}  
}  
/*
```

Write a class circle with radius as a field. setRadius() use to set Radius 0.0 as default. getRadius () use to take input from user and also check whether value of Radius is

greater then 0.0 or not. calculateArea() use to calculate the area and display on screen. calculateCircumference() use to find and display circumference.

*/

```
package p31;

import java.util.Scanner;

public class P31 {

    public static void main(String[] args) {

        circle c1 =new circle();

        c1.setRadius(0);

        c1.getRadius();

        c1.calculateArea();

        c1.calculateCircumference();

    }

}

class circle{

    Scanner input=new Scanner(System.in);

    float radius,area,Circumference;

    void setRadius(float r){

        radius=r;

        System.out.println(r);

    }

    void getRadius(){

        System.out.print("Enter the radius:");

        radius=input.nextFloat();

        if(radius>0.0)
```

```

System.out.println("Radius is greater then 0.0");
else
    System.out.println("Radius is not greater then 0.0");
}

void calculateArea(){
    area= (2*3.14f*radius);
    System.out.println("Area of circle is:"+area);
}

void calculateCircumference(){
    Circumference= (2*3.14f*radius);
    System.out.println("Circumference of circle is:"+Circumference);
}
}

/*

```

Write a class Book with three data members id, price and pages. Also contain some methods. get() use to take input in id, price and pages from user. set() use to set the values of id, price and pages using parameters. Show() use to display values.

```

*/
package p32;
import java.util.Scanner;
public class P32 {
    public static void main(String[] args) {
        book b1=new book();
        b1.get();
        b1.set(122,670,23);
    }
}
```

Prof: Irfan Ali Muzammal

```
b1.show();  
}  
}  
  
class book{  
    Scanner input=new Scanner(System.in);  
    int id,price,pages;  
    void get(){  
        System.out.print("Enter the BookID:");  
        id =input.nextInt();  
        System.out.print("Enter the BookPrice:");  
        price=input.nextInt();  
        System.out.print("Enter the BookPages:");  
        pages=input.nextInt();  
    }  
    void set(int i , int p ,int p1){  
        id=i;  
        System.out.println(i);  
        price=p;  
        System.out.println(p);  
        pages=p1;  
        System.out.println(p1);  
    }  
    void show(){  
        System.out.println("The BookID is:"+id);  
        System.out.println("The Bookprice is:"+price);  
    }  
}
```

```
System.out.println("The Bookpages is:"+pages);
}
}
/*

```

Write a class Animal with followings data members. Name, age and color. Also contains followings methods. setDefault() use to store name and color as null and age as zero. getData() use to take input from user. setData() use to set values as parameters. showData() use to display values on screen.

```
 */

```

```
package p33;
import java.util.Scanner;
public class P33 {
    public static void main(String[] args) {
        Animal a1 =new Animal();
        a1.setDefault();
        a1.getData();
        a1.setData("manoo", "white", 12);
        a1.showData();
    }
}
class Animal{
    Scanner input =new Scanner(System.in);
    String name,color;
    int age;
    void setDefault(){

```

Prof: Irfan Ali Muzammal

```
name="";
color="";
age=0;
}

void getData(){
System.out.print("Enter the name of the animal:");
name=input.next();
System.out.print("Enter the color of the animal:");
color= input.next();
System.out.print("Enter the age of the animal:");
age=input.nextInt();
}

void setData(String n,String c,int a){
name=n;
System.out.println(n);
color=c;
System.out.println(c);
age=a;
System.out.println(a);
}

void showData(){
System.out.println("The name of the animal:"+name);
System.out.println("The Color of the animal:"+color);
System.out.println("The age of the animal:"+age);
}
```

```
}
```

```
/*
```

Write a class Fan with default constructor that display the following message on screen “ A new Fan is manufactured” whenever a new object of Fan in created.

```
*/
```

```
package p34;
```

```
public class P34 {
```

```
    public static void main(String[] args) {
```

```
        Fan f1 = new Fan();
```

```
    }
```

```
}
```

```
class Fan{
```

```
    Fan(){
```

```
        System.out.println("A new Fan is manufactured");
```

```
    }
```

```
}
```

```
/*
```

Write a class Person with one data member name(string). Default constructor set the name as null whenever new object is created. getName() use to take input in name from user. showName() use to display name on screen

```
*/
```

```
package p35;
```

```
import java.util.Scanner;
```

```
Prof: Irfan Ali Muzammal
```

```
public class P35 {  
    public static void main(String[] args) {  
        Person p1 = new Person(" ");  
        System.out.println(p1.name);  
        p1.Getname();  
        p1.Showname();  
    }  
}  
  
class Person{  
    Scanner input = new Scanner(System.in);  
    String name;  
    Person(String n){  
        name=n;  
    }  
    void Getname(){  
        System.out.print("Enter the name:");  
        name=input.next();  
    }  
    void Showname()  
    { System.out.println("you enter the name is:"+ name);}  
}
```

/*

Write a class weekDay with one data members day (string). It also contain a

constructor weekDay() that set the value of day as Monday whenever object of that class is created. get() use to take input from user. show() use to display on screen.

*/

```
package p36;

import java.util.Scanner;

public class P36 {

    public static void main(String[] args) {

        Weekday w1 =new Weekday("Monday");

        System.out.println(w1.day);

        w1.get();

        w1.Show();

    }

}

class Weekday{

    Scanner input = new Scanner(System.in);

    String day;

    Weekday(String d){

        day =d;

    }

    void get(){

        System.out.print("Enter the day of the week:");

        day= input.next();

    }

    void Show (){

}
```

Prof: Irfan Ali Muzammal

```
System.out.println("you enter the day is:"+day);  
}  
}  
  
/*
```

Write a class Adder with three data members number1 (int) , number2(int) , and sum(int). The default constructor take input from user in number1 and number2 whenever the object of Adder is created. Adder also contain a function sum() that find and display the sum of number1 and number2.

```
*/
```

```
package p37;  
import java.util.Scanner;  
public class P37 {  
    public static void main(String[] args) {  
        Adder a1=new Adder();  
        a1.Sum();  
    }
```

```
}
```

```
class Adder{  
    Scanner input =new Scanner(System.in);  
    int number1;  
    int number2;  
    int sum;
```

Prof: Irfan Ali Muzammal

```
Adder(){  
    System.out.print("Enter the value of number1:");  
    number1=input.nextInt();  
    System.out.print("Enter the value of number2:");  
    number2=input.nextInt();  
}  
  
void Sum(){  
    sum=number1+number2;  
    System.out.println("total sum="+sum);  
}  
}
```

/*

Write a class Student with data members name(string) , fatherName(string) and rollno. Write a constructor to take input from user. also write a method info() to display all data on screen.

*/

```
package p38;  
import java.util.Scanner;  
public class P38 {  
    public static void main(String[] args) {  
        Student s1 = new Student();  
        s1.info();  
    }  
}
```

Prof: Irfan Ali Muzammal

```
}

class Student{

    Scanner input = new Scanner(System.in);

    String name, fathername;

    int rollnumber;

    Student(){

        System.out.print("Enter the name of a student:");

        name=input.next();

        System.out.print("Enter the father name of a student:");

        fathername=input.next();

        System.out.print("Enter the rollnumber of a student:");

        rollnumber=input.nextInt();

    }

    void info(){

        System.out.println("The name of a student:"+name);

        System.out.println("The fathername of a student:"+fathername);

        System.out.println("the rollnumber of a student:"+rollnumber);

    }

}
```

/*

Write a class Mobile with one data member brand(string). Write a constructor that take one string value as a parameter and set as brand of mobile. Class also contain a

method show() that display th brand on screen.

*/

```
package p39;
public class P39 {
    public static void main(String[] args) {
        mobile m1 = new mobile("oppo");
        m1.showmethod();
    }
}
class mobile{
    String mobile;
    mobile(String m){
        mobile=m;
    }
    void showmethod(){
        System.out.println("brand:"+mobile);
    }
}
```

/*

Write a class TV that contains the attributes brand , model, and price. Write a method info() to display all attributes on screen. Write a constructor that take values as parameter and set as values of attributes.

Prof: Irfan Ali Muzammal

```
*/  
  
package p40;  
  
public class P40 {  
  
    public static void main(String[] args) {  
  
        TV t1 =new TV("samsung","40N5300",54000);  
  
        t1.info();  
  
    }  
  
}  
  
class TV{  
  
    String brand,model;  
  
    int price;  
  
    TV(String b, String m, int p){  
  
        brand=b;  
  
        model=m;  
  
        price=p;  
  
    }  
  
    void info(){  
  
        System.out.println("BRAND:"+brand);  
  
        System.out.println("MODEL:"+model);  
  
        System.out.println("PRICE:"+price);  
  
    }  
  
}
```

/*

Write a class Candy with one data member color(String). Write a default constructor that initialize the color as null. Also write a parameterized constructor that take a string value as parameter and set as color of candy

*/

package p41;

public class P41 {

 public static void main(String[] args) {

 Candy c1 =new Candy("orange");

 System.out.println(c1.color);

 }

}

 class Candy{

 String color=" ";

 Candy(String c){

 color=c;

 }

 }

/*

Write a class Teacher with following data members. Name, age and last degree.

Write a constructor that initialize data as default values. Name and last degree as null

Prof: Irfan Ali Muzammal

and age is zero. Write another constructor that take one string parameter and set as name. write another constructor that take 2 string parameters and set name and last degree. Write another constructor that take three parameters one integer and two strings and set, name age and last degree.

*/

```
package p42;  
public class P42 {  
    public static void main(String[] args) {  
        Teacher t= new Teacher("RIZWAN");  
        Teacher t1= new Teacher("ALI","MBA");  
        Teacher t2= new Teacher("BILAL","MSIT",28);  
    }  
}  
class Teacher{  
    String name,lastdegree;  
    int age;  
    Teacher(){  
        name="null";  
        lastdegree="null";  
        age=0;  
    }  
    Teacher(String n ){  
        name=n;  
        System.out.println("Teacher name :" +name);  
    }  
}
```

Prof: Irfan Ali Muzammal

```
}

Teacher(String na ,String l){
    name=na;
    lastdegree=l;
    System.out.println("Teacher name :" +name);
    System.out.println("Teacher Lastdegree:" +lastdegree);
}

Teacher (String nam, String la ,int a){
    name=nam;
    lastdegree=la;
    age=a;
    System.out.println("Teacher name :" +name);
    System.out.println("Teacher Lastdegree:" +lastdegree);
    System.out.println("Teacher age :" +age);
}
}
```

Write a class Rectangle with two parameters width(float), height(float). Write a default constructor that initialize the values of width and height is zero. Write a parameterized constructor that take only one float parameter and set it as width.

Write another parameterized function that take 2 float values and set as width and height. Also write a method to display data on screen.

```
*/
```

```
package p43;
```

Prof: Irfan Ali Muzammal

```
public class P43 {  
    public static void main(String[] args) {  
        Rectangle r1=new Rectangle(13.3f);  
        r1.Show();  
        r1.Rectangle(222.555f,334.56f);  
    }  
}  
  
class Rectangle{  
    float width,height;  
    Rectangle(){  
        width=0;  
        height=0;  
    }  
    Rectangle(float w){  
        width=w;  
    }  
    void Rectangle(float w, float h){  
        width=w;  
        height=h;  
        System.out.println("The height of the ractangle:"+height);  
        System.out.println("The width of the rectangle"+width);  
    }  
}
```

```
void Show()  
{  
    System.out.println("The width of the rectangle"+width);  
  
}  
}  
  
/*  
Write a class candy with following data members color(string), and id(int). write a  
method get() to set the values and one method to display the values. Create 3  
objects of candies. obj1, obj2 and obj3. Set values of obj1 by calling the get(). And  
copy the value of obj1 as obj2 and obj3. Display values of all objects on screen.  
*/  
  
package p44;  
  
public class P44 {  
  
    public static void main(String[] args) {  
        Candy obj1 = new Candy("orange",354);  
        obj1.show();  
        Candy obj2 = new Candy(obj1);  
        obj2.show();  
        Candy obj3 = new Candy(obj2);  
        obj3.show();  
    }  
}
```

```
    }

}

class Candy

{

    String color;

    int ID;

    Candy(String c, int l)

    {

        color = c;

        ID = l;

    }

    Candy(Candy c1){

        color=c1.color;

        ID=c1.ID;

    }

    void show(){

        System.out.println("the color you enter:"+color);

        System.out.println("the ID you enter:"+ID);

    }

}
```

```
/*
```

Write a class CNIC with following data member name(String) , age(int) , address(String) and country(String and static). This class is used to store the data of only Pakistani citizens. Store value of country as Pakistan. Write a constructor that take name , age and address from user. write a method info() that display name, age , address, and country on screen. Write 3 object of CNIC , take data , and then display on screen

```
*/
```

```
package p45;  
import java.util.Scanner;  
public class P45 {  
  
    public static void main(String[] args) {  
  
        CNIC c1=new CNIC();  
  
        c1.info();  
  
        CNIC c2=new CNIC();  
  
        c2.info();  
  
        CNIC c3=new CNIC();  
  
        c2.info();  
  
    }  
}
```

```
class CNIC{
```

```
    Scanner input= new Scanner(System.in);
```

```
    String name;
```

```
    int age;
```

Prof: Irfan Ali Muzammal

```
String address;  
  
static String country="Pakistan";  
  
CNIC(){  
  
System.out.print("Enter the name:");  
  
name=input.next();  
  
System.out.print("Enter the Address:");  
  
address=input.next();  
  
System.out.print("Enter the Age:");  
  
age=input.nextInt();  
  
}  
  
void info(){  
  
System.out.println("NAME:"+name);  
  
System.out.println("Address:"+address);  
  
System.out.println("AGE:"+age);  
  
System.out.println("Country:"+country);  
  
}  
  
}
```

```
/*
```

Write a class Teacher to store the data of teachers of Reader College Sargodha. Class contains the following data members, name, subject, age and college_name. Point out static data member to save the memory. Initialize the static data member. Create 3 objects of Teacher . Take input from user using method and display the data on screen using function.

```
*/
```

```
package p46;  
import java.util.Scanner;  
public class P46 {  
  
    public static void main(String[] args) {  
  
        Teacher t1=new Teacher();  
  
        t1.takeData();  
  
        t1.show();  
  
        Teacher t2=new Teacher();  
  
        t2.takeData();  
  
        t2.show();  
  
        Teacher t3=new Teacher();  
  
        t3.takeData();  
  
        t3.show();  
  
    }  
  
}  
  
class Teacher{  
    Scanner input= new Scanner(System.in);  
  
    String name,subject;  
  
    int age;  
  
    static String collegeName= "Reader collage sargodha";  
  
    void takeData(){  
  
        System.out.print("Enter your name:");  
    }  
}
```

```
name=input.next();

System.out.print("Enter your subject:");

subject=input.next();

System.out.print("Enter your age:");

age=input.nextInt();

}

void show(){

System.out.println("Teacher name:"+name);

System.out.println("Teacher Subject:"+subject);

System.out.println("Teacher age:"+age);

System.out.println("Institute name:"+collegeName);

}

}

/*

```

Write a class Baby with following data member. Name(string), and count(int)(static).Write a constructor to get value of name from user. show() use to display the nameand count on screen. Write a static method counter to increase the value of count by1 when it is called. Create 5 objects of Baby ,call counter() with every object of baby, and at the end, display data of all objects on screen .

```
*/
```

```
package p47;

import java.util.Scanner;

public class P47 {
```

```
public static void main(String[] args) {
```

```
    Baby b1 = new Baby();
```

```
    b1.counter();
```

```
    b1.Show();
```

```
    Baby b2 = new Baby();
```

```
    b2.counter();
```

```
    b2.Show();
```

```
    Baby b3 = new Baby();
```

```
    b3.counter();
```

```
    b3.Show();
```

```
    Baby b4 = new Baby();
```

```
    b4.counter();
```

```
    b4.Show();
```

```
    Baby b5 = new Baby();
```

```
    b5.counter();
```

```
    b5.Show();
```

```
}
```

```
}
```

```
class Baby
```

```
{
```

```
    String name;
```

Prof: Irfan Ali Muzammal

```
static int count = 22;

Baby()

{
    Scanner input = new Scanner(System.in);

    System.out.print("Name of a baby is: ");

    name = input.next();

}

void Show()

{
    System.out.println("Name of a baby is: "+name);

    System.out.println(count);

}

static void counter()

{
    count++;
}

}
```

/*

Write a program that creates three object of a class Student.

Each object of class must be assigned a unique roll number.

(hint : use static data member for unique roll number)

*/

Prof: Irfan Ali Muzammal

```
package p48;

public class P48 {
    public static void main(String[] args) {
        {
            Student s = new Student();
            s.rollno = 23;
            Student s1 = new Student();
            s1.rollno = 24;
            Student s2 = new Student();
            s2.rollno = 25;
        }
    }

    class Student
    {
        static int rollno;
    }
}

/*

```

Write a program in java that declare an object of a class Calculator. Class containsthe following data members num1 (int), num2 (int), answer(int). also contain a function with following signature void sum(int num1, int num2). And function addboth numbers , store in answer. (use this keyword if required). Class containanother function show() that display the answer on screen.

```
*/  
  
package p49;  
  
public class P49 {  
  
    public static void main(String[] args) {  
  
        Calculator c1 = new Calculator();  
  
        c1.sum(12,34);  
  
        c1.show();  
  
    }  
  
    class Calculator{  
        int num1,num2,answer;  
        void sum(int num1,int num2){  
            this.num1=num1;  
            this.num2=num2;  
            answer=num1+num2;  
        }  
        void show(){  
            System.out.println("Value of number1:"+num1);  
            System.out.println("Value of number2:"+num2);  
            System.out.println("Total value:"+answer);  
        }  
    }  
  
/*  
 Write a program in java that declare an object of a class Calculator. Class  
 containsthe following data members num1(int) , num2(int), answer(int).  
 also contain afunction with following signature void sum(int num1, int  
 num2). And function addboth numbers , store in answer. (do not use this  
 keyword). Class contain anotherfunction show( ) that display the answer  
 on screen.(note the difference betweenthe working of program 1 and  
 program 2).  
 */
```

```
package p50;
public class P50 {
    public static void main(String[] args) {
        Calculator c1 =new Calculator();
        c1.sum(12,34);
        c1.show();
    }

}

class Calculator{
    int num1,num2,answer;
    void sum(int n1,int n2){
        num1=n1;
        num2=n2;
        answer=num1+num2;
    }
    void show(){
        System.out.println("Value of number1:"+num1);
        System.out.println("Value of number2:"+num2);
        System.out.println("Total value:"+answer);
    }
}

/*
Write a program in java that declare 2 objects of class Book. Class contains the following data members bookname(string) , authorname(string). Define a constructor with following signature “public Book(String bookname, String authorname)” that set the values of variable by using this keyword. Define a function show ( ) that display the output on screen.
*/
package p51;
public class P51 {
    public static void main(String[] args) {
        Book b1=new Book("Diwan-e-Ghalib"," Mirza Ghalib");
        b1.show();
        Book b2=new Book("Bal-i-Jibril ","Allama Iqbal");
    }
}
```

```

        b2.show();
    }
}

class Book{
    String BookName,AuthorName;
    public Book(String BookName, String AuthorName){
        this.BookName=BookName;
        this.AuthorName=AuthorName;
    }
    void show(){
        System.out.println("Book Title:"+BookName);
        System.out.println("Written By:"+AuthorName);
    }
}

```

/*

Write a program that declare an object of class Mobile and call the getData() and show(). Class contains the following data members name(String) and price(int). Class contains the following member functions getName(), getPrice(), and getData(). getName() use to take input from user in name. getPrice() use to take input from user in price. getData() calls the getName() and getPrice(). Show() function display the values on screen.

*/

```

package p52;
import java.util.Scanner;
public class P52 {
    public static void main(String[] args) {
        Mobile m1 =new Mobile();
        m1.getData();

    }
}

class Mobile{
    Scanner input =new Scanner(System.in);

```

```

String name;
int price;

void getName(){
    System.out.print("Enter the name:");
    name=input.next();
}
void getPrice(){
    System.out.print("Enter the price:");
    price=input.nextInt();
}
void getData(){
    Mobile m1 =new Mobile();
    m1.getName();
    m1.getPrice();
    m1.show();
}
void show(){
    System.out.println("The name of the mobile:"+name);
    System.out.println("The price of the mobile:"+price);
}
}

```

/*

Write a class Demo that contains two constructor. First constructor display the message “ABCDEFG” and second constructor calls the first constructor and also display “HIJKLMNO”. Create 2 objects of Demo in main function.

*/

package p53;

```

public class P53 {
    public static void main(String[] args) {
        Demo d1 =new Demo();
        Demo d2 = new Demo("HIJKLMNO");

    }
}

```

Prof: Irfan Ali Muzammail

```
        }
    class Demo
    {
        Demo()
    }

    System.out.println("ABCDEFG");

}

Demo(String r)

{
    this();

    System.out.println("HIJKLMNO");

}
}
```

/*

Write a program that contain two classes named “Shape” and “Square” with empty bodies. Create is-a relationship between them. Create objects of both classes. (is-a relationship is a type of inheritance).

*/

```
package p54;

public class P54 {

    public static void main(String[] args) {

        Shape s = new Shape();

        Square s1 = new Square();

    }
}
```

Prof: Irfan Ali Muzammail

```
}

class Shape

{

}

class Square extends Shape

{

}

/*

```

Write a program that contain three classes named “Class1”, “Class2” and “Class3”.

Class3 is the child of Class2. Class2 is child of Class1. Create object of all three classes in main method.

```
*/  
  
package p55;  
  
public class P55 {  
  
    public static void main(String[] args) {  
  
        class1 c1 = new class1();  
  
        class2 c2 = new class2();  
  
        class3 c3 = new class3();  
  
    }  
  
}
```

```
class class1{}  
  
class class2 extends class1  
  
{  
  
}
```

Prof: Irfan Ali Muzammal

```
class class3 extends class2
{
}
```

```
/*
```

Write a program that contain three classes named “Class1”, “Class2” and “Class3”.

Class3 and Class2 are child classes of Class1. Create objects of all three classes in main method.

```
*/
```

```
package p56;
public class P56 {
    public static void main(String[] args) {
        Class1 c1 = new Class1();
        Class2 c2 = new Class2();
        Class3 c3 = new Class3();
    }
}
```

```
class Class1
```

```
{  
}
```

```
class Class2 extends Class1
```

```
{  
}
```

```
class Class3 extends Class1
```

```
{
```

Prof: Irfan Ali Muzammal

```
}
```

```
/*
```

Write a program that contain two classes named “Shape” and “Square”. Shape class contain one attribute color(string). Square class is the child class of Shape. Create one object of Square and store any color name in variable. And display value on screen.

```
*/
```

```
package p57;
```

```
public class P57 {
```

```
    public static void main(String[] args) {
```

```
        Square s1 = new Square();
```

```
        s1.color = "Black";
```

```
        System.out.println(s1.color);
```

```
    }
```

```
}
```

```
class Shape
```

```
{
```

```
    String color;
```

```
}
```

```
class Square extends Shape
```

```
{
```

```
}
```

```
/*
```

Prof: Irfan Ali Muzammal

Define a class Person with following data members {name, age, gender}. Create a child class of Person named Student. Student class contain the following data member {name, age, gender, rollNo, marks}. Create object of Student and take input from user in main method and display on screen.

*/

```
package p58;  
import java.util.Scanner;  
public class P58 {  
    public static void main(String[] args) {  
        Student s = new Student();  
        s.getData();  
        s.show();  
    }  
}  
  
class Person {  
    Scanner input = new Scanner(System.in);  
    String name;  
    int age;  
    String gender;  
}  
  
class Student extends Person {  
    int rollno;  
    int marks;
```

Prof: Irfan Ali Muzammal

```
void getData()
{
    System.out.print("Enter name of student:");
    name = input.next();

    System.out.print("Enter the gender of student:");
    gender = input.next();

    System.out.print("Enter the age of student:");
    age = input.nextInt();

    System.out.print("Enter rollno of student:");
    rollno = input.nextInt();

    System.out.print("Enter marks of student:");
    marks = input.nextInt()

}

void show()
{
    System.out.println("Name of student is:"+name);
    System.out.println("Gender of student is:"+gender);
    System.out.println("Age of student is:"+age);
    System.out.println("Rollno of student is:"+rollno);
    System.out.println("Marks of student is:"+marks);
}

/*

```

Write a class “Point” that defines its child class “Circle”. Create default constructors in Point class that prints “It's a single point” and constructor of class Circle prints, “It's a closed shape”. Create object of Circle class in main method.

```
*/
```

```
package p59;

public class P59 {

    public static void main(String[] args) {

        circle c = new circle();

    }

}

class point {

    point()

    {

        System.out.println("It's a single point");

    }

}

class circle extends point {

    circle()

    {

        System.out.println("It's a closed shape");

    }

}
```

```
/*
```

Define two classes Laptop and LCD. LCD class contains the following data members {length, width, dpi}. Laptop class contains the following data members { brand, price, and object of LCD}. Create object of Laptop and store data in it.

```
*/
```

```
package p60;
```

```
public class P60 {
```

```
    public static void main(String[] args) {
```

```
        Laptop L1 =new Laptop();
```

```
        L1.brand="huawei";
```

```
        L1.price=54000;
```

```
    }
```

```
}
```

```
class Laptop{
```

```
    String brand;
```

```
    int price;
```

```
    LCD obj = new LCD();
```

```
}
```

```
class LCD{
```

```
    float lenght,width,dpi;
```

```
}
```

```
/*
```

create a class called date includes three instance variable,a month(int),a day(int),and a year (int)

constructors ,gatter/satter method,display data

Prof: Irfan Ali Muzammal

write a Demo applicatin name datetest that demonstrate class date's capabilitess.

```
*/  
package p61;  
  
import java.util.Scanner;  
  
public class P61 {  
  
    public static void main(String[] args){  
  
        Date d1 =new Date();  
  
        d1.Get();  
  
        d1.displayDate();  
  
    }  
}  
  
class Date{  
  
    int month,day,year;  
  
    Date(){  
  
        month=0;  
  
        day=0;  
  
        year=0;  
  
    }  
  
    Date(int m,int d,int y){  
  
        month=m;  
  
        day=d;  
  
        year=y;  
  
    }  
  
    void Get(){  
  
        Scanner input =new Scanner(System.in);  
    }
```

Prof: Irfan Ali Muzammal

```
System.out.print("Enter month:");
month=input.nextInt();

System.out.print("Enter day:");
day=input.nextInt();

System.out.print("Enter year:");
year=input.nextInt();

}

void displayDate(){

System.out.println("month is:"+month);

System.out.println("day is:"+day);

System.out.println("year is:"+year);

}

}

/*

```

create a class Employee with instance variable Empld,EmpName,EmpAge and decide proper datatype and access modifiers for these variable.Define overload constructors, getter/settermethod and also override to string()method.

Demonstrate this class in your program.

```
*/
```

```
package p62;

import java.util.Scanner;

public class P62 {

public static void main(String[] args) {

Employee e1 =new Employee();

e1.get();
```

Prof: Irfan Ali Muzammal

```
e1.ToString();  
e1.show();  
}  
}  
  
class Employee{  
public String EmpName;  
public int Empld,EmpAge;  
public Employee(){  
EmpName="Null";  
Empld=0;  
EmpAge=0;  
}  
public Employee(String N,int l,int A){  
EmpName="N";  
Empld=l;  
EmpAge=A;  
}  
public void get(){  
Scanner input=new Scanner(System.in);  
System.out.print("Enter employee name:");  
EmpName=input.next();  
System.out.print("Enter employee id:");  
Empld=input.nextInt();  
System.out.print("Enter employee age:");  
EmpAge=input.nextInt();
```

```
}

public String ToString(){
    return("Employee:"+EmpName+Empld+EmpAge);
}

public void show(){
    System.out.println("Employee name is:"+EmpName);
    System.out.println("Employee id is:"+Empld);
    System.out.println("Employee age is:"+EmpAge);
}

}

/*

```

**write a java program that has shape class and subclasses rectangle, oval, and triangle.
use these classes to demonstrate polymorphism behavior .**

```
*/
package p66;

public abstract class shape{
    public static void main(String[] args) {
        Rectangle s1 =new Rectangle();
        s1.show();

        Triangle t1=new Triangle();
        t1.show();

        oval o1= new oval();
        o1.show();
    }
}
```

```
class Rectangle extends shape{  
    public void show(){  
        System.out.println("its a rectangle class");  
    }  
}  
  
class Triangle extends shape{  
    public void show(){  
        System.out.println("its a triangle class");  
    }  
}  
  
class oval extends shape{  
    public void show(){  
        System.out.println("its a oval class");  
    }  
}  
  
/*
```

create a bird class that has talk method,define owl,parrot,crow classes that extends birds class override its talk method.demonstrate polymorphism behaviour by using these classes.

```
*/  
  
package p64;  
  
public abstract class Bird{  
    public static void main(String[] args) {  
        Crow c1 = new Crow();  
        c1.talkmethod();
```

```
Parrot p1=new Parrot();
p1.talkmethod();
Owl o1=new Owl();
o1.talkmethod();
}

}

class Crow extends Bird{
    public void talkmethod (){
        System.out.println("Crow class");
    }
}

class Parrot extends Bird{
    public void talkmethod(){
        System.out.println("Parrot class");
    }
}

class Owl extends Bird{
    public void talkmethod (){
        System.out.println("Owl class");
    }
}
```