JAVA CODE

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QUESTION:

Write java program to display even and odd number

```
//importing class of scanner for inputing
import java.util.Scanner;
class Easy{
public static void main(String[] args){
//creating an object or instance for input
Scanner in=new Scanner(System.in);
int num;
System.out.println("Enter any number");
num=in.nextInt();
//logic to find even number
if(num%2==0){
System.out.println("number is even");
}
else{
System.out.println("number is odd");
            }
     }
}
```

```
C:\Users\abc>cd desktop

C:\Users\abc\Desktop>javac Easy.java

C:\Users\abc\Desktop>java Easy
Enter any number
56
number is even

C:\Users\abc\Desktop>java Easy
Enter any number
55
number is odd
```

QUESTION:

Write java program to display 10 integers using loop:

```
class Fredy{
public static void main(String[] args){
   for (int i=1;i<=10; i++){
System.out.println(i);
            }
     }
}
```

```
C:\Users\abc\Desktop>javac Fredy.java

C:\Users\abc\Desktop>java Fredy
1
2
3
4
5
6
7
8
9
10
```

QUESTION

Write java program to display properties of car as class

```
class Car{
     // properties of car
```

```
String bland;
String color;
int speed;

        // Method or function of car
  void driving(){
System.out.println(bland+ " of color "  +color+ " travel for
speed of "  +speed+  "km/h");
          }
}
//class of main method
public class Main{
      public static void main(String[]args){
Car car1 =new Car();
car1.bland="Toyota";
car1.color="Black";
car1.speed=120;
car1.driving();
Car car2 =new Car();
car2.bland="Honda";
car2.color="White";
car2.speed=140;
car2.driving();
      }
}
```

OUTPUT RESULT

```
C:\Users\abc\Desktop>javac Main.java

C:\Users\abc\Desktop>java Main
Toyota of color Black travel for speed of 120km/h
Honda of color White travel for speed of 140km/h
```

QUESTION:

Write a program to store students records in mathematics subjects

```
class Student
{
String name;
int marks;
char grade;
// Method for class Student
public void Exam(){
System.out.println(name+" has "+marks+"marks in mathematics with grade " +grade);
    }
}
public class Main{
//Main method for class Main
public static void main(String[] args) {

//create object to store data
Student student1=new Student();
student1.name="Fredy samson";
student1.marks=56;
student1.grade='C';
student1.Exam();
```

```
Student student2=new Student();
student2.name=" Jackline mbowe ";
student2.marks=90;
student2.grade='A';
student2.Exam();
    }
}
```

```
D:\Desktop>javac Main.java

D:\Desktop>java Main
Fredy samson has 56marks in mathematics with grade C
Jackline mbowe has 90marks in mathematics with grade A
```

QUESTION:

Write java program to Prepare summary of people information about their properties.

```
class Human{
String name;
int age;
String sex;
String color;
public void jumping(){
System.out.println("my name is " +name+" i have "
+age+"years old ,am i a " +sex+" with " +color+"
color");
     }
}
public class Main{
public static void main(String[] args) {
```

```
Human h1=new Human();
h1.name="Latina John";
h1.age=19;
h1.sex="Female";
h1.color="White";
h1.jumping();

Human h2=new Human();
h2.name="jackline John";
h2.age=29;
h2.sex="Female";
h2.color="Black";
h2.jumping();

Human h3=new Human();
h3.name="Joshua Mussa";
h3.age=17;
h3.sex="Male";
h3.color="Black";
h3.jumping();

Human h4=new Human();
h4.name="Fredy samson";
h4.age=12;
h4.sex="Male";
h4.color="White";
h4.jumping();
      }
```

```
    }
```

```
D:\Desktop>javac Main.java

D:\Desktop>java Main
my name is Latina John i have 19years old ,am i a Female with White color
my name is jackline John i have 29years old ,am i a Female with Black color
my name is Joshua Mussa i have 17years old ,am i a Male with Black color
my name is Fredy samson i have 12years old ,am i a Male with White color
```

QUESTION

Write a java program to ready your name

```
import java.util.Scanner;
class Witty{
public static void main(String[] args)`{
  Scanner obj=new Scanner(System.in);
String name;
     System.out.println("enter your name");
name=obj.nextLine();
     System.out.println("my name is "+name);
   }
}
```

```
C:\Users\abc\Desktop>javac Witty.java

C:\Users\abc\Desktop>java Witty
enter your name
Fredy Samson Mussa
my name is Fredy Samson Mussa
```

QUESTION

Read two numbers from the user java code

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

```
class Devid{
public static void main(String[] args) {
Scanner fredy=new Scanner(System.in);
int a,b;
System.out.println("enter two number");
 a=fredy.nextInt();
b=fredy.nextInt();
System.out.print("number entered are " +a+ " and "+b);
        }
}
```

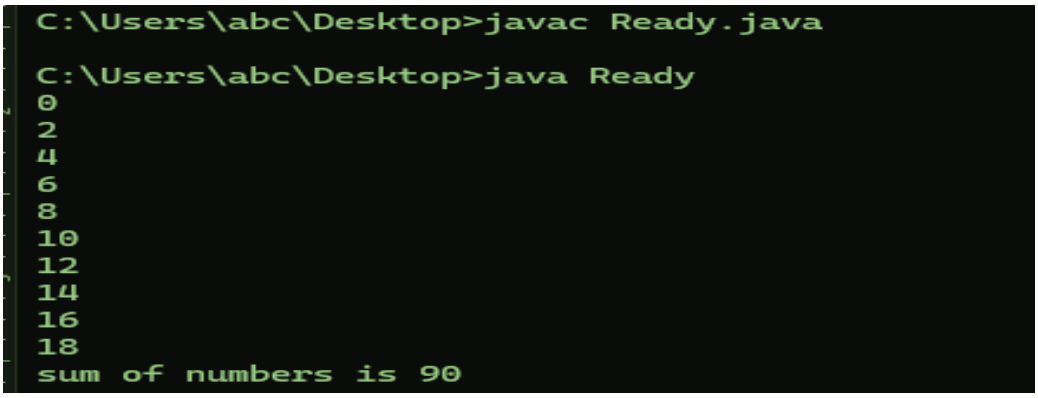
```
D:\Desktop>javac Devid.java

D:\Desktop>java Devid
enter two number
56
34
number entered are 56 and 34
```

QUESTION

Write java program to find sum numbers

```
class Ready{
    public static void main(String[] args){
       int sum=0;
       for (int i=0;i<20;i+=2){
           sum+=i;
           System.out.println(i);
      }
    System.out.println("sum of numbers is " +sum);
    }
}
```



QUESTION:

Write java program to print the timetable within five days using switch;

```
import java.util.Scanner;
class Mzumbe{
    public static void main(String[] args){
       int number;
       Scanner jack=new Scanner(System.in);
       System.out.println("Enter any number between 1 and 5 ");
       number=jack.nextInt();
switch(number){
    case 1:
 System.out.println("Mathematics");
    break;
  case 2:
 System.out.println("Geography");
    break;
  case 3:
 System.out.println("Computer with java");
    break;
```

```
  case 4:
 System.out.println("Engineering");
    break;
  case 5:
 System.out.println("Mathematics and OS");
    break;
default:
 System.out.println("invalid number");
    break;
            }
     }
}
```

Output in console

```
C:\Users\abc\Desktop>javac Mzumbe.java

C:\Users\abc\Desktop>java Mzumbe
Enter any number between 1 and 5
3
Computer with java

C:\Users\abc\Desktop>java Mzumbe
Enter any number between 1 and 5
5
Mathematics and OS

C:\Users\abc\Desktop>java Mzumbe
Enter any number between 1 and 5
6
invalid number
```

QUESTION:

Write code to find factorial of any number in java

Code java

```
import java.util.Scanner;
public class FactorialRecursion{
```

```
public static int factorial(int n){
if(n<=1) {
return 1;//Base case
}
return n* factorial(n-1); // recursive case
 }
public static void main(String[] args){
//creating for scanning input
Scanner obj=new Scanner(System.in);
int n, result;
//inputing of number from keyboard
System.out.println("enter any number");
n=obj.nextInt();

// calling function
result=factorial(n);
System.out.println("factorial of " +n+ " is " +result);
    }
}
```

```
C:\Users\abc\Desktop>javac FactorialRecursion.java

C:\Users\abc\Desktop>java  FactorialRecursion
enter any number
6
factorial of 6 is 720

C:\Users\abc\Desktop>java  FactorialRecursion
enter any number
7
factorial of 7 is 5040
```

QUESTION:

Write java program to compare two numbers if number is odd then added by 1 and if the number is even is added by 2. Then display the result.

Java code

```
import java.util.Scanner;
class Number{
public static void main(String[] args){
int n1,n2;
// create object to read input
Scanner fredy=new Scanner(System.in);
// ask user to enter two numbers
System.out.println("Enter two number");
n1=fredy.nextInt();
n2=fredy.nextInt();
if(n1%2==0){
n1+=2;
}
        else{
                n1-=1;
      }
      if(n2%2==0){
              n2+=2;
}
else{
n2-=1;
```

```
        }
System.out.println("first number is " +n1+ " and
second number is " +n2);
     }
}
```

```
C:\Users\abc\Desktop>javac Number.java

C:\Users\abc\Desktop>java Number
Enter two number
23
40
first number is 22 and second number is 42

C:\Users\abc\Desktop>java Number
Enter two number
3
2
first number is 2 and second number is 4
```

QUESTION:

Write java program to find sum of n numbers from the user

Java Code

```
import java.util.Scanner;
class SumOfNumber{
public static void main(String[] args){
int numb;
int n;
int sum=0;
// create object to read input(scanner)
Scanner scanner=new Scanner(System.in);
System.out.println("enter size of elements");
n=scanner.nextInt();
```

```
System.out.println("enter elements one by one");
for(int i=1; i<=n; i++){
System.out.print("element " +i+ "=");
numb=scanner.nextInt();
sum+=numb;
}
System.out.println("sum of elements is " +sum);
    }
}
```

```
C:\Users\abc\Desktop>javac SumOfNumber.java

C:\Users\abc\Desktop>java SumOfNumber
enter size of elements
6
enter elements one by one
element 1=23
element 2=45
element 3=66
element 4=78
element 5=12
element 6=23
sum of elements is 247
```

QUESTION:

Write a java program to find sum 5 of elements in array;

Java Code

```
import java.util.Scanner;
class SumOfArray{
public static void main(String[] args){
int i;
int arr[]=new int[5];
int sum=0;
// object to read input
```

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


for(i=0;i<5;i++){
System.out.print("Enter element at " +(i+1)+"=");
arr[i]=in.nextInt();
sum+=arr[i];
}
System.out.println("sum of elements in array is "
+sum);
      }
}
```

```
C:\Users\abc\Desktop>javac SumOfArray.java

C:\Users\abc\Desktop>java SumOfArray
Enter  element at 1=56
Enter  element at 2=98
Enter  element at 3=90
Enter  element at 4=43
Enter  element at 5=21
sum of elements in array is 308
```

QUESTION:

Write java program to input integer numbers from the user and its size of elements, then display sum of the numbers entered by the user.

```
import java.util.Scanner;
class SumArray{
public static void main(String[] args){
int n;
int sum=0;
//create object to read input from the user
```

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

System.out.println("Enter size of elements");
n=scan.nextInt();
// create array which will store the entered elements
int[] numbers=new int[n];
for(int i=0;i<n; i++){
System.out.print("Element: "+(i+1)+  "=");
numbers[i]=scan.nextInt();
sum+=numbers[i];
}
System.out.println("Sum of "+n+ " numbers is "+sum);
           }
 }
```

```
C:\Users\abc\Desktop>javac SumArray.java

C:\Users\abc\Desktop>java SumArray
Enter size of elements
7
Element: 1=45
Element: 2=32
Element: 3=90
Element: 4=12
Element: 5=34
Element: 6=56
Element: 7=78
Sum of 7 numbers is 347
```

QUESTION

Write a java program to ask a user to enter positive number, -1 to exit using while loop.

```
import java.util.Scanner;
 class WhileLoop
```

```
{
   public static void main(String[] args){
int number;
//create to read number
Scanner obj=new Scanner(System.in);
     System.out.println("Enter positive number(-1 to
exit)");
                number=obj.nextInt();
   while(number !=-1) {
       if(number>=0) {
  System.out.println("you entered "+number);
    }
   else{
         System.out.println("please enter a positive
number(-1 to exit)");
 }
        System.out.println("Enter another number (-1 to
exit)");
        number=obj.nextInt();
  }
System.out.println("Program exited");
         obj.close();
    }
 }
```

```
C:\Users\abc\Desktop>javac WhileLoop.java

C:\Users\abc\Desktop>java WhileLoop
Enter any number(-1 to exit)
34
you entered 34
Enter another number(-1 to exit)
56
you entered 56
Enter another number(-1 to exit)
89
you entered 89
Enter another number(-1 to exit)
-2
please enter a positive number(-1 to exit)
Enter another number(-1 to exit)
-1
Program exited
```

QUESTION:

Write a java program to ask a user to enter any number, -1 to exit using while loop.

```
import java.util.Scanner;
public class NumberInput {
public static void main(String[] args){
      // create object to read inputs
 Scanner fredy=new Scanner(System.in);
int number;
            System.out.println("Enter any number (-1 to exit)");
          number=fredy.nextInt();

//continue looping until the user enter -1
     while(number!= -1) {
 System.out.println("You have entered: " +number);
   // Ask a user for another number
 System.out.println("Enter another number (-1 to exit)");
```

```
        number=fredy.nextInt();
  }
 System.out.println("program exited because -1 was
entered ");
       fredy.close();
            }
  }
```

OUTPUT

```
D:\Desktop>javac NumberInput.java

D:\Desktop>java  NumberInput
Enter any number (-1 to exit)
6
You have entered: 6
Enter another number (-1 to exit)
7
You have entered: 7
Enter another number (-1 to exit)
-1
program exited because -1 was entered
```

QUESTION:

Print duplicates of data for the following arrays of numbers

```
class Duplicate{
    public static void main(String [] args){
        int[] ar={34,90,23,15,74,90,34,23,42};
        for(int i=0; i<ar.length-1; i++){
            for(int j=i+1; j<ar.length; j++){
                if ((ar[i]==ar[j]) &&( i !=j)){
                    System.out.println("duplicate is
"+ar[j]);
                }
```

```
            }
        }
    }
}
```

Explanation for this code if i=0 the program compare to the following

Index of i=0,1,2,3,4,5,6 and7. where (i=0;i<n-1 ;i++)

Index of j=1,2,3,4,5,6 ,7 and 8. Where (j=i+1; j<n; j++)

i=34.j=90,23,15,74,90,34,23 and 42.

i=90. J=23,15,74,90,34,23 and 42.

i=23. J=15,74,90,34,23 and 42.

i=15. J=74,90,34,23 and 42.

i=74.j=90,34,23 and 42.

i=90.j=34,23 and 42.

i=34. J=23 and 42.

i=23. J=42.

QUESTION:
Find the sum of two matrix of the same elements

```
import java.util.Scanner;
import java.util.Arrays;
class AddArray{
    public static void main(String [] args){
        int i,j;
        int r,c;
        //creation of scanner object for input
        Scanner fr =new Scanner(System.in);
```

```
        System.out.println("Enter size of rows and
column");
        r=fr.nextInt();
        c=fr.nextInt();
        //creation of object arrays
        int a[][] =new int[r][c];
        int b[][] =new int[r][c];
        int sum[][] =new int[r][c];
        System.out.println("Enter elements in the
first array");
        for( i=0; i<r; i++){
            for( j=0; j<c; j++){
                a[i][j]=fr.nextInt();
            }
        }
        System.out.println("Enter elements in the
Second array");
        for ( i=0; i<r; i++){
            for(j=0; j<c; j++){
                b[i][j]=fr.nextInt();
            }
        }
                for( i=0; i<r; i++){
                    for(j=0; j<c; j++){
                        sum[i][j]=a[i][j]+b[i][j];
                    }
                }
                System.out.println("sum of two array
are");
```

```
                    for ( i=0; i<r; i++){
                        for( j=0; j<c; j++){

     System.out.println(sum[i][j]);
                }
            }
        }
    }
```

QUESTION

Write a java program to prompts the user for coefficients of quadratic equation to compute its two x values using general formula assuming that (b^2 >=4ac). It should contain ;

I. At least three instance variables.
II. At least two instance methods.

```
import java.util.Scanner;
//declaring class
class SolvingQuadratic{
    //declaring instance variables
    double a;
    double b;
    double c;
    //declaring instance methods
    void enterInput(){
        Scanner input= new Scanner(System.in);
        System.out.println("Enter value of a");
        a=input.nextDouble();
        System.out.println("Enter value of b");
        b=input.nextDouble();
        System.out.println("Enter value of c");
        c=input.nextDouble();
    }
    void solveQuadraticEquation(){
        double d=((b*b)-(4*a*c));
        if(d>=0){
            double X1=(-b + Math.sqrt(d))/(2*a);
            double X2=(-b - Math.sqrt(d))/(2*a);
```

```
                System.out.println( "X1=" +X1+ " X2="
+X2);
            }
            else{
                System.out.println("no real root");
            }
        }
        public static void main(String[] args){
            SolvingQuadratic get=new
SolvingQuadratic();
            get.enterInput();
            get.solveQuadraticEquation();
        }
}
```

OUTPUT

```
D:\Desktop\JAVA PROGRAMS>java SolvingQuadratic
Enter value of a
1
Enter value of b
4
Enter value of c
1
X1=-0.2679491924311228 X2=-3.732050807568877
```

QUESTION:

Write java program to find the maximum integer in an array of unknown size and ask the user to enter the numbers in array.

```
import java.util.Scanner;
class FindingMaximumNumberInArray{
    public static void main(String [] args){
        int maximum;
        int size;
        //creating an object to scan input from the
user.
        Scanner input=new Scanner(System.in);
        //asking for user to input size of an array
```

```
        System.out.println("Enter size of elements");
        size=input.nextInt();
        //initialization of an array in the program
        int []array=new int[size];
        //ask for user to input elements in array one
by one.
        System.out.println("Enter "+size+" elements in
an array");
        for(int i=0; i<size; i++){
            System.out.print("Element  "+(i+1)+"=");
            array[i]=input.nextInt();
        }
        //assumption of maximum array is array[0]
        maximum=array[0];
        //Finding maximum number in array as follows
        for(int i=0; i<size; i++){
                    if(array[i]>maximum)
                    maximum=array[i];
        }
        //displaying the maximum number in array
        System.out.println("maximum is :"+maximum);
    }
}
```

- How this program works

Eg array[i]= {23,45,89,65,1}.

Maximum=23(that is array [0]).

Array [1] =45, 45>23 yes maximum=45.

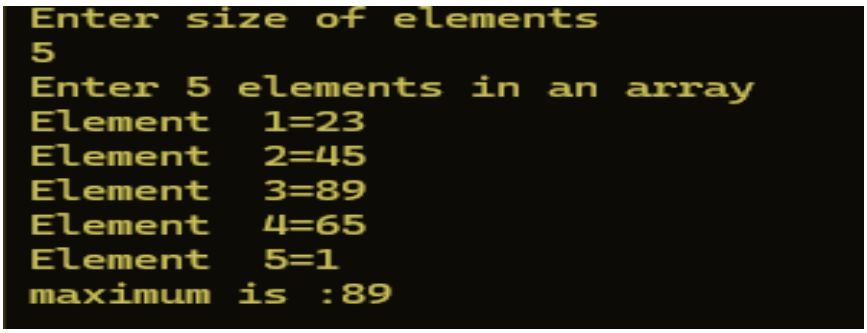
Array [2] =89,89>45 yes maximum=89.

Array [3] =65,65>89 no maximum=89.

Array [4] =1,1>89 no maximum=89.

Then Maximum value =89

OUTPUP RESULT



QUESTION:

Write a java program that prompts the user to enter 10 elements in array of type integer, and hence the program should sort elements in ascending and descending order

```
import java.util.Scanner;
import java.util.Arrays;
class SortingArrayElements{
    public static void main(String [] args){
        /*initialization of temporary storage for
        holding values during swapping*/
        int temp;
        //declaration of array
        int [] array = new int[10];
        Scanner input = new Scanner(System.in);
        //ask for user for input elements in an arrays
        for(int i=0; i<10; i++){
```

```
        System.out.print("Element:"+"["+(i+1)+"]=");
                array[i]=input.nextInt();
            }
            //outputing the original array
            System.out.println("unsorted arrays are");
            System.out.println(Arrays.toString(array));

            /*loop used to sort elements in ascending
            order single-dimension arrays*/
            for(int i=0; i<10; i++){
                for(int j=i+1; j<10; j++){
                    /*after comparison the greater value
                    swapped to next position*/
                    if(array[i]>array[j]){
                        temp = array[i];
                        array[i]= array[j];
                        array[j]= temp;
                    }
                }
            }
            //displaying ascending sorted  arrays to the
console
            System.out.println("ascending sorted array are
");
            System.out.println(Arrays.toString(array));
            //loop for sorting elements in descending
order
            for(int i=0; i<10; i++){
```

```
                for(int j=i+1; j<10; j++){
                    /*after comparison the small value
                    swapped to next position*/
                    if(array[i]<array[j]){
                        temp = array[i];
                        array[i]= array[j];
                        array[j]= temp;
                    }
                }
            }
            //displaying descending sorted arrays to the
console
            System.out.println("descending sorted array
are ");
            System.out.println(Arrays.toString(array));
        }
}
```

```
D:\Documents>java SortingArrayElements
Element :[1]=45
Element :[2]=76
Element :[3]=12
Element :[4]=90
Element :[5]=45
Element :[6]=12
Element :[7]=34
Element :[8]=56
Element :[9]=88
Element :[10]=100
unsorted arrays are
[45, 76, 12, 90, 45, 12, 34, 56, 88, 100]
ascending sorted array are
[12, 12, 34, 45, 45, 56, 76, 88, 90, 100]
discending sorted array are
[100, 90, 88, 76, 56, 45, 45, 34, 12, 12]
```

How this code work:

Temp=array[i];

Array[i]=array[j];

Array[j]=temp;

Swapping of 45 and 76.

i=0 and j=1

Temp =array [0]; //temp=45

Array [0] =array [1]; // Array [o] =76

Array [1] =temp; //array [1] =45.

Then

Array = {45,76} will be array = {76,45}

QUESTION:

Write java program asking the user to input to find volume of cylinder using constructor and display answer to user.

```
/*FREDY SAMSON MUSSA 14323074/T.24*/
import java.util.Scanner;
class VolumeOfCylinders{
    //declaration of instance variables
    double radius;
    double height;
    //declaration of static variable
    static double PI = 3.14;
    // constructor to initialize instance variables
    VolumeOfCylinders(double x, double y){
        radius=x;
        height=y;
    }
    //method to compute volume
    public double findVolume(){
        double volume=PI * radius *radius *height;
        return volume;
```

```
    }
    public static void main(String [] args){
        //creation of Scanner object for input
        Scanner input = new Scanner(System.in);

        //asking the user for input
        System.out.println("Enter value of radius");

    /*after inputing value of x and y then constructor
    will follow otherwise error will occurs*/
    double x = input.nextDouble();
    System.out.println("Enter value of height");
    double y= input.nextDouble();
    /*creation of class object to access methods and
    variables. when you use constructor to pass
    parameters don't declare constructor after main
    method because variables are not known thus from
    above when input complete then constructor follow*/
    VolumeOfCylinders voc = new VolumeOfCylinders(x
    ,y);
        //outputing the result
    System.out.print("Volume of
    Cylinder="+voc.findVolume());
    }
}
```

QUESTION:

Write java program to display the area and volume of rectangular box ☒ use at least 4 instance method and ask the user for input values.

```java
/*FREDY SAMSON MUSSA\ICTB-1\14323074/T.24*/
//Program to find area and volume of rectangular box
import java.util.Scanner;
public class Mussa_Fredy{
    //instance variables
    int width;
    int length;
    int height;
    //method to compute area of rectangular box
    public int computeAreaOfRectangularBox(){
        int area= length * width;
        return area;
    }
    //method to display area of rectangular box
    public void displayAnswerOfArea(){

    System.out.println("Area="+computeAreaOfRectangular
Box());
    }
    //method of computing Volume of rectangular box
    public int computeVolumeOfRectangularBox( ){
       int volume= length * width * height;
       return volume;
    }
    /*method to display area of rectangular box
    the only one thing is to pass functions in output
method so that to get answers*/
    public void displayAnswerOfVolume(){
```

```
    System.out.println("Volume="+computeVolumeOfRectang
ularBox());
    }
    public static void main(String [] args){
        Mussa_Fredy get = new Mussa_Fredy();

        //creating object for scanning input from the
user
        Scanner input = new Scanner(System.in);
        //asking the user for input of values
        System.out.println("Enter values length");
        get.length= input.nextInt();
        System.out.println("Enter values width");
        get.width= input.nextInt();
        System.out.println("Enter values height");
        get.height= input.nextInt();
        //calling of methods to display volume and
area
        get.displayAnswerOfArea();
        get.displayAnswerOfVolume();
    }
}
```