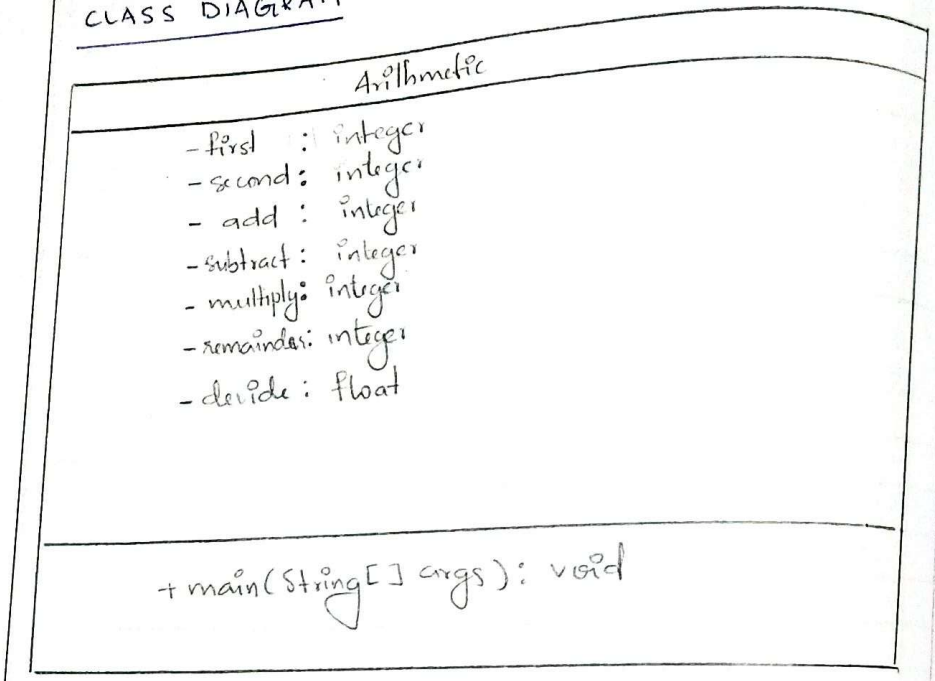
CLASS DIAGRAM



OUTPUT

```
Java Arithmatic 24 56
Sum = 80
difference = -32
product = 1344
Result = 0.42857143
Remainder = 24
```


PROGRAM NO: 1 COMMADLINE ARGUMENTS

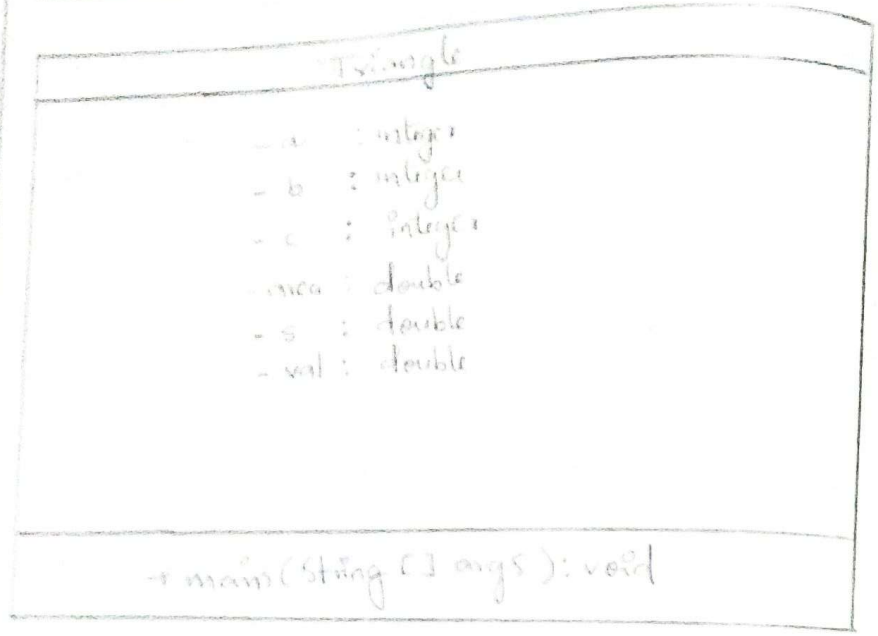
AIM:

Write a program to find the sum, difference, product quotient and remainder of two numbers passed as comment line argument.

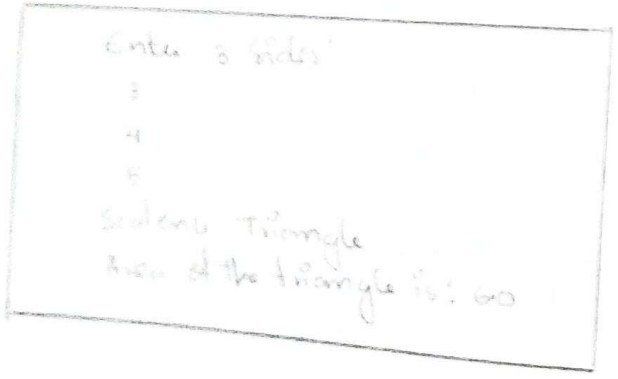
SOURCE CODE:

```
import java.util.Scanner;
class Arithmetic
{
public static void main(String args[])
{
 int first, second, add, subtract, multiply, remainder;
 float devide;
 Scanner sc = new Scanner (System.in);
 first = Integer.parseInt (args[0]);
 second = Integer.parseInt (args[1]);
 add = first + second;
 multiply = first * second;
 subtract = first - second;
 devide = (float) first/second;
 remainder = first%second;
 System.out.println ("Sum="+add);
 System.out.println ("difference = "+ subtract);
 System.out.println ("product = "+multiply);
 System.out.println (" Result = "+devide);
 System.out.println (" Remainder = "+remainder);
}
}
```

CLASS DIAGRAM



OUTPUT



PROGRAM NO 2 TRIANGLE

AIM

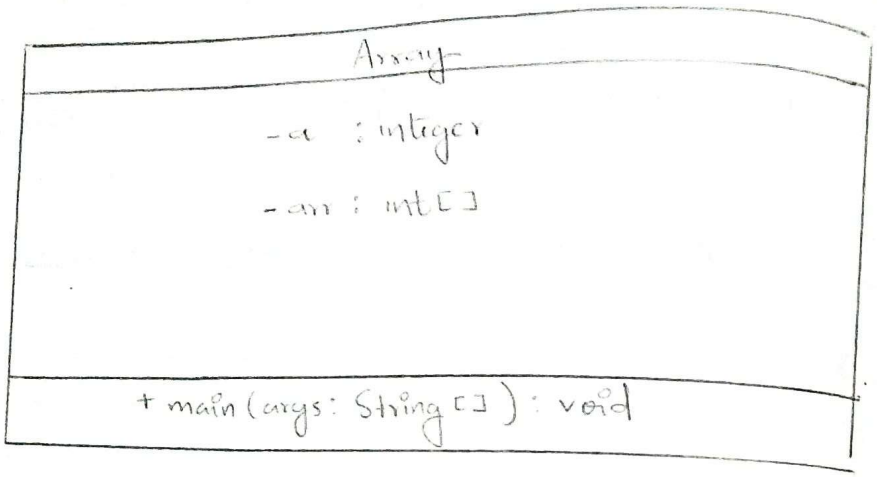
Given the sides of a triangle, write a program to check whether the triangle is equilateral, isosceles or scalene and finds its area

SOURCE CODE

```
import java.util.*;
import java.lang.Math;
class Triangle
{
public static void main(String args[])
{
Scanner sc = new Scanner(System.in);
int a, b, c;
double area, s, val;
System.out.println("Enter 3 sides:");
a = sc.nextInt();
b = sc.nextInt();
c = sc.nextInt();
if(a<b+c&& b<a+c&& c<a+b)
{
if(a==b&&b==c)
System.out.println("Equilateral triangle");
else if(a==b||b==c||c==a)
System.out.println("Isosceles triangle");
else
System.out.println("Scalene triangle");
```

```
s = (a+b+c)/2;
val = s*(s-a)*(s-b)*(s-c);
area = Math.sqrt(val);
System.out.println("Area of triangle is:"+area);
}
else
System.out.println("cannot form a triangle");
}
}
```

CLASS DIAGRAM



OUTPUT

```
Array = [55, 10, 8, 90, 43, 87, 95, 25, 50, 12]
Sorted Array = [8, 10, 12, 25, 43, 50, 55, 87, 90, 95]
Smallest : 8
Largest 95
second largest 90
```


PROGRAM NO 3 ARRAY

AIM :

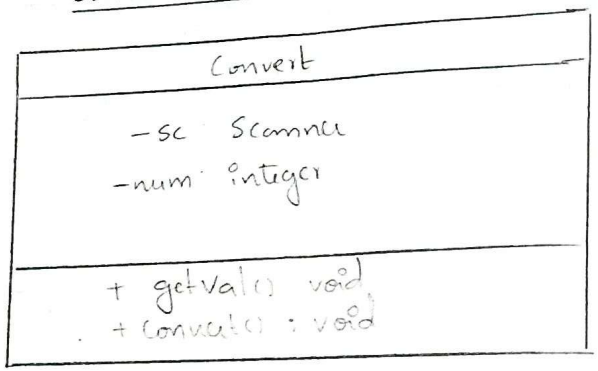
Read an array of 10 or more numbers and write a program to find the
a) smallest element in the array
b) largest element in the array
c) second largest element in the array

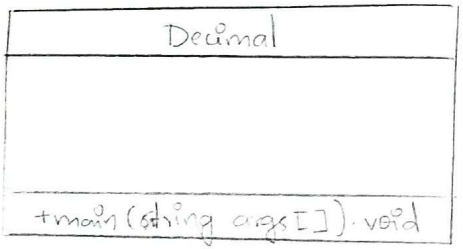
SOURCE CODE :

```
import java.util.*;
public class Array
{
public static void main (String args[])
 {
 int a;
 int arr[] = {55,10,8,90,43,87,95,25,50,12};
 System.out.println("Array = "+Arrays.toString(arr));
 int count= arr.length;
 for (int i=0; i< count; i++)
  {
   for(int j= i+1 ; j< count; j++)
   {
    if(arr[i] > arr[j])
     {
      a=arr[i];
      arr[i] = arr[j];
      arr[j] = a;
     }
   }
 }
```

```
System.out.println("Sorted Array = " Arrays.toString(arr));
System.out.println("Smallest" + arr[0]);
System.out.println("Largest" + arr[count-2]);
}
}
```

CLASS DIAGRAM





OUTPUT

```
Decimal to Hena Decimal, octal to Binary
Enter the number
55
HenaDecimal value is 55
Octal Value is 125
Binary value is 1010101
```


PROGRAM NO 4 BASE CONVERSION

AIM

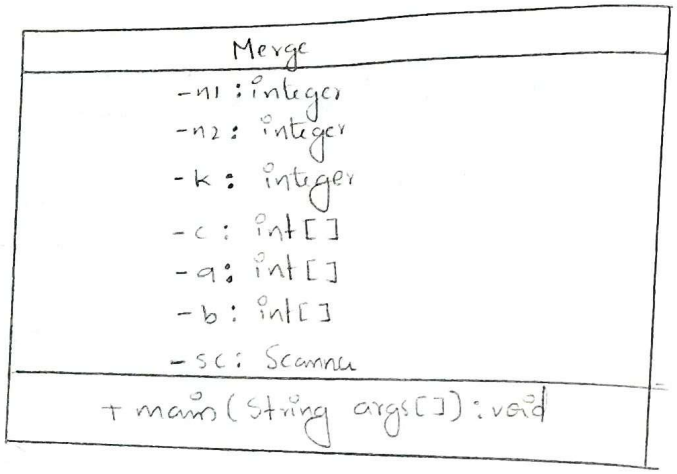
write a program to perform base conversion
a) Integer to binary
b) Integer to Octal
c) Integer to Hexadecimal

SOURCE CODE:

```
import java.util.Scanner
class Convert
{
Scanner sc,
int num,
void getVal()
{
 System.out.println("Decimal to Hena Decimal, octal
                                    and Binary),
 sc = new Scanner(System.in),
 System.out.println("Enter the Number");
 num = Integer.parseInt(sc.nextLine()),
}
void Convert()
{
 String hx = Integer.toHexString(num),
 System.out.println("HenaDecimal Value is "+hx),
 String oc = Integer.toOctalString(num);
 System.out.println("octal value is"+oc);
 String bin = Integer.toBinaryString(num);
 System.out.println("Binary value is"+bin);
}
```

```
}
class Decimal
{
public static void main (String args[])
{
Convert c =new Convert();
c.getval();
c.convert();
}
}
```

CLASS DIAGRAM



OUTPUT

```
Enter number of elements in first array
5
Enter the first array elements
1 2 3 4 5
Enter number of elements in second array
4
Enter the second array elements
1 2 3 4
First array
1 2 3 4 5
Second array
1 2 3 4
Merged array
1 2 3 4 5
```


PROGRAM NO : 5 MERGE ARRAY

AIM

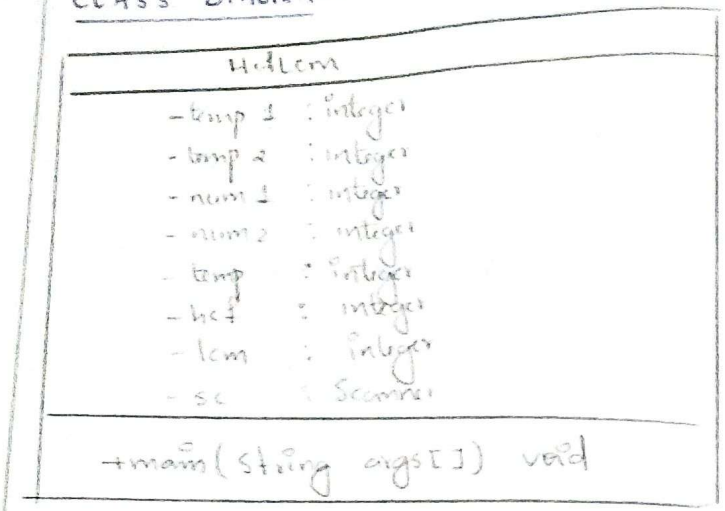
Write a program to merge two arrays

SOURCE CODE

```
import java.util.Scanner;
public class Merge
{
public static void main(String args[])
{
int n1, n2, k;
int[] c = new int[50];
Scanner sc = new Scanner(System.in);
System.out.println("Enter number of elements in first
                    array");
n1 = sc.nextInt();
int a[] = new int[n1];
System.out.println("Enter the first array elements");
for(int i=0; i<n; i++)
{
  a[i] = sc.nextInt();
  c[i] = a[i];
}
k = n1;
System.out.println("Enter number of elements in
                    second array");
n2 = sc.nextInt();
int b[] = new int[n2];
System.out.println("Enter the second array elements");
```

```
for(int i=0; i<n2; i++)
{
  b[i] = sc.nextInt();
  c[k] = b[i];
  k++;
}
System.out.println("first array");
for(int i=0; i<n1; i++)
{
  System.out.print(" "+a[i]);
}
System.out.println("second array");
for(int i=0; i<n2; i++)
{
  System.out.print(" "+b[i]);
}
System.out.println("Merged array");
for(int i=0; i<k; i++)
{
  System.out.print(" "+c[i]);
}
}
}
```

CLASS DIAGRAM



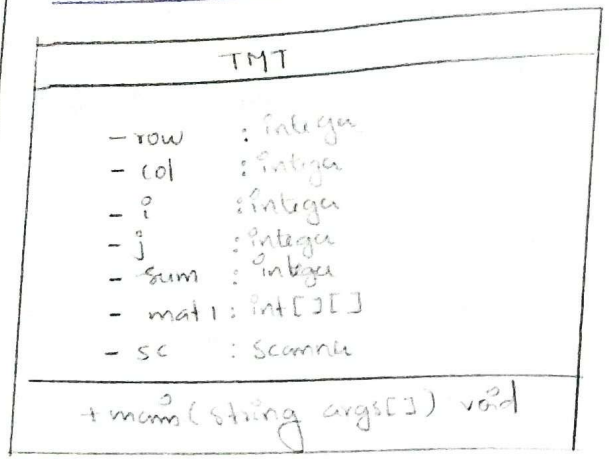
OUTPUT

```
Enter first number
56
Enter second number
98
HCF = 14
LCM = 392
```



```
// Java Programming Code to find
// HCF and LCM of two numbers

import java.util.Scanner;
public class HcfLcm
{

  public static void main(String args[])
  {

    int temp1,temp2, num1, num2, temp, hcf, lcm;
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter first number");
    num1 = sc.nextInt();
    System.out.println("Enter second number");
    num2 = sc.nextInt();
    temp1 = num1;
    temp2 = num2;
    while (temp2 != 0)
    {
      temp = temp2;
      temp2 = num2 % temp2;
      temp1 = temp;
    }
    hcf = temp1;
    lcm = (num1*num2)/hcf;
    System.out.println("HCF = "+hcf);
    System.out.println("LCM = "+lcm);
  }
}
```

CLASS DIAGRAM



OUTPUT

```
Enter Number of Rows
3
Enter Number of columns
3
Enter elements
1 2 3
4 5 6
7 8 9
Original Matrix
1 2 3
4 5 6
7 8 9
Transpose of a Matrix
1 4 7
2 5 8
3 6 9
Trace = 15
```

PROGRAM NO 7 TRANSPOSE

AIM

Write a program to find the trace and transpose of a matrix

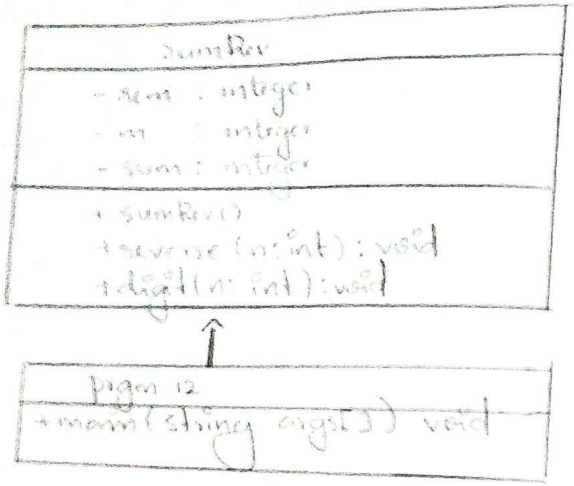
SOURCE CODE -

```
import java.util.Scanner;
class TMT
{
public static void main(String args[])
{
int row, col, i, j, sum = 0;
Scanner sc = new Scanner(System.in);
System.out.println("Enter Number of Rows");
row = sc.nextInt();
int mat1[][] = new int[30][30];
System.out.println("Enter elements");
for(i=0; i<row; i++)
{
for(j=0; j<col; j++)
{
mat1[i][j] = sc.nextInt();
}
}
System.out.println("Original Matrix");
for(i=0; i<row; i++)
{
for(j=0; j<col; j++)
{
System.out.print(" "+mat1[i][j]);
```

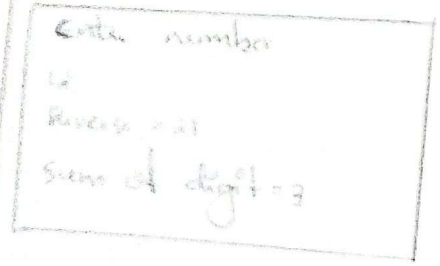
```
}
System.out.println();
}
System.out.println("transpose of matrix");
for(i=0;i<col;i++)
{
for(j=0;j<row;j++)
{
System.out.print(" "+mat1[j][i]);
}
System.out.println();
}
if(row==col)
{
for(i=0;i<row;i++)
{
for(j=0;j<col;j++)
{
if(i==j)
{
Sum = Sum + mat1[i][j];
}
}
}
System.out.println("Trace = "+sum);
}
else
{
System.out.println("only Square matrix contains
```

```
display_trace();
}
}
}
```

CLASS DIAGRAM



OUTPUT



PROGRAM NO: 8 SUM AND REVERSE

AIM-

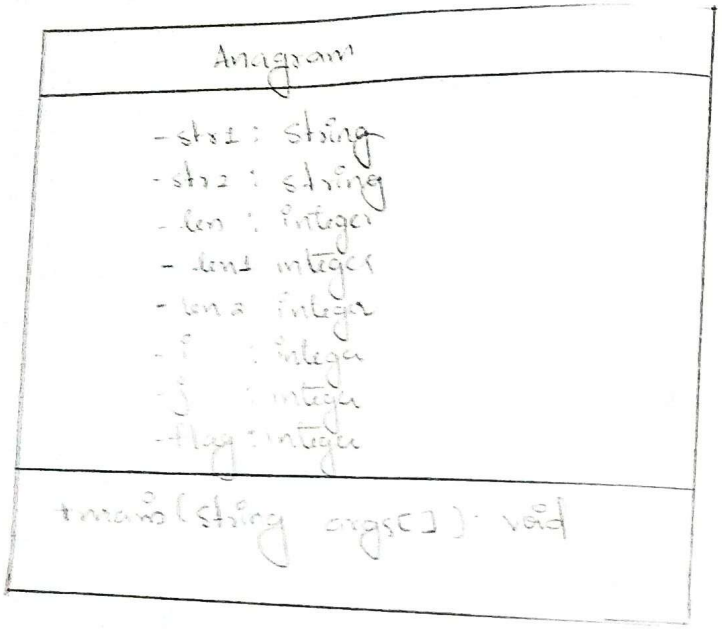
Write java program to find the sum of the digits and reverse of a given number using class and objects.

SOURCE CODE -

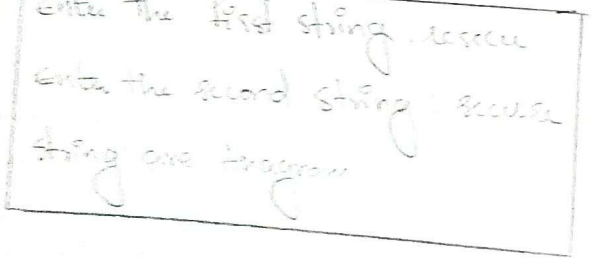
```
import java.util.Scanner;
class SumRev
{
int rem,m, sum;
SumRev()
{
 m=0,
 sum=0,
 rem=0;
}
void reverse(int n)
{
 do
  {
   rem=n%10,
   m= m*10+rem;
   n=n/10,
  }
 while(n>0),
 System.out.println("Reverse ="+m);
}
void digit(int n)
{
 rem=0,
```

```
do
{
rem = n % 10;
sum = sum+rem;
n= n/10;
}
while(n>0);
System.out.println("Sum of digit =" +sum);
}
}
class Prgm12
{
public static void main(String args[])
{
Scanner sc = new Scanner(System.in);
System.out.println("Enter Number");
int num = sc.nextInt();
SumRev obj = new SumRev();
obj.reverse(num);
obj.digit(num);
}
}
```

CLASS DIAGRAM



OUTPUT



PROGRAM NO: 9 ANAGRAM

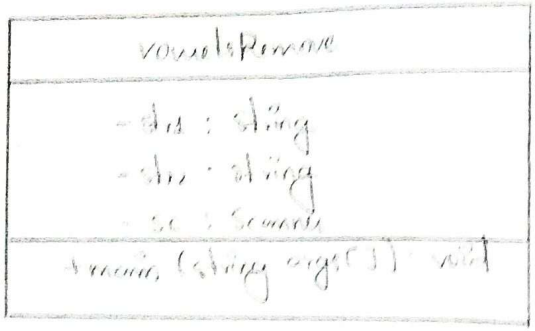
AIM Write a java Programming Code to check given string Anagram or Not if the two strings are anagram to each other, then one string can be rearranged to form the other string. for Example abc and cba are anagram.

SOURCE CODE:

```
import java.util.Scanner;
class Anagram
{
 public static void main(String args[])
 {
  String str1, str2;
  int ln, len1, len2, i, j, flag=0;
  Scanner scan = new Scanner(System.in);
  System.out.println("enter first string:");
  str1 = scan.nextLine();
  System.out.println("Enter second string");
  str2= scan.nextLine();
  System.out.println("
  len1 = str1.length();
  len2 = str2.length();
  if(len1==len2)
  {
   len = len1;
   for(i=0; i<ln; i++)
   {
    flag=0;
```

```
for(j=0;j<len;j++)
{
if(str1.charAt(i)==str2.charAt(j))
{
flag=1;
break;
}
}
if(flag==0)
{
break;
}
}
if(flag==0)
{
System.out.println("strings are not anagram to
each other");
}
else
{
System.out.println("strings are anagram");
}
}
else
{
System.out.println("Both strings must have the same
no of characters to be anagram");
}
}
}
```

CLASS DIAGRAM



OUTPUT

```
Enter a string
i was good girl
as girl girl
```

/ /

69

PROGRAM NO 10 VOWELS

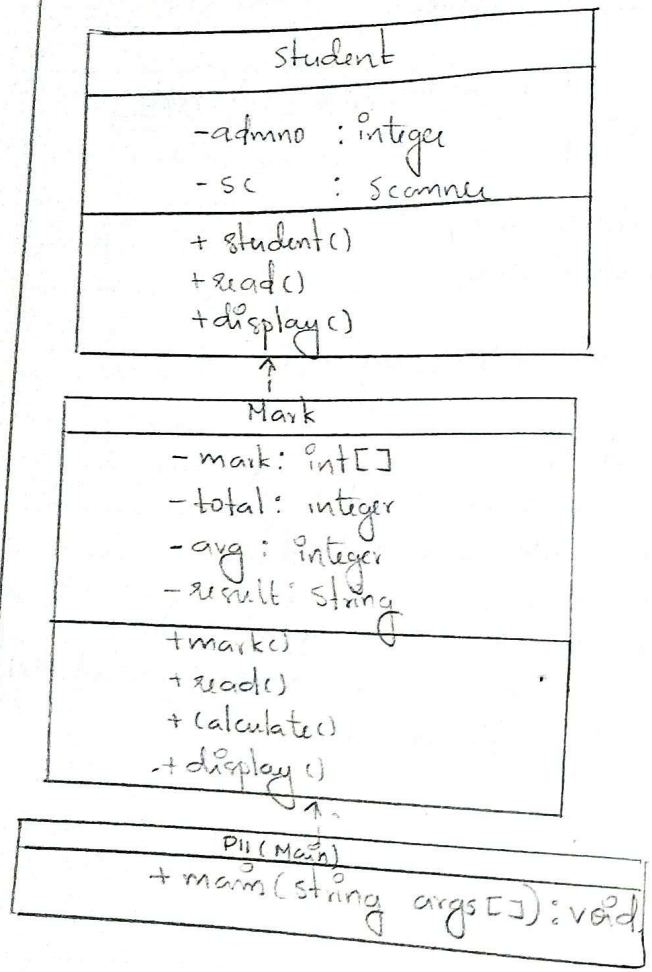
AIM :

Write a java program to remove all vowels from string.

SOURCE CODE

```
Program java.util.Scanner;
public class VowelsRemove
{
public static void remVo(String args[])
 {
  String str,str1;
  Scanner sc = new Scanner(System.in);
  System.out.println("Enter a String");
  str = sc.nextLine();
  str1 = str.replaceAll("[aeiouAEIOU]","");
  System.out.println("All vowels removed successfully");
  System.out.println(str1);
 }
}
```

CLASS DIAGRAM



PROGRAM NO: 11 STUDENT RESULT

AIM

Create a class Student to read and display the student details. Create another class mark extend from student to read marks of 5 subjects and find total and average. Write a java program to display the result of a student.

SOURCE CODE

```
import java.util.Scanner;
class Student
{
 int admno;
 Scanner sc;
 Student()
 {
  sc = new Scanner(System.in);
 }
 void read()
 {
 System.out.println("Enter Admno:");
 admno = sc.nextInt();
 }
 void display()
 {
  System.out.print(admno+"\t");
 }
}
class Mark extends student
{
```

OUTPUT

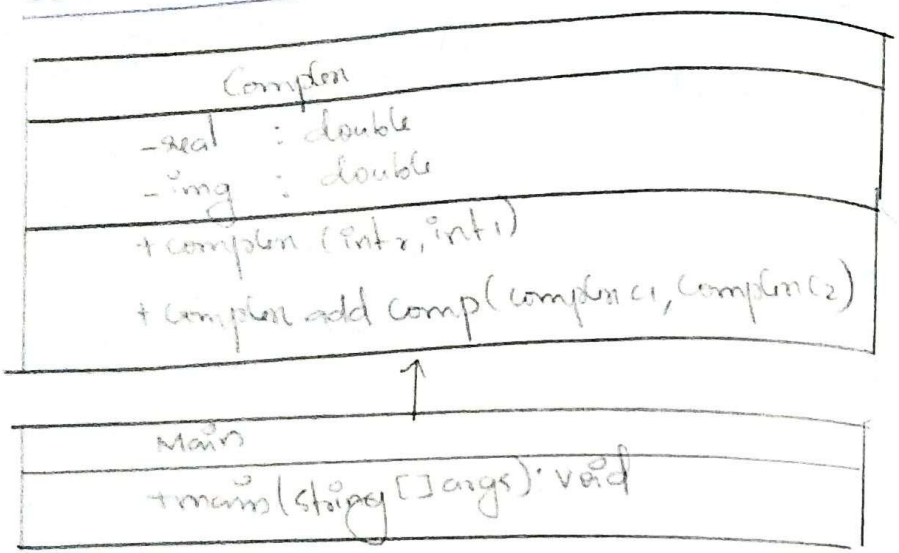
```
Enter Number of students :
1
Enter[1] student details....
Enter Admno
1654
Enter 5 subjects marks
Enter subject[1]
50
Enter subject[2]:
49
Enter subject[3]:
48
Enter subject[4]:
47
Enter subject[5]:
45
Student Details
Admno      Result
1654       PASSED
```

```
int mark[],
int total,
int avg,
int i,
String result,
Mark()
{
super(),
mark = new int[5],
total = 0,
avg = 0,
}
void read()
{
super.read(),
System.out.println("Enter 5 subjects marks : ");
for(i=0;i<5;i++)
{
System.out.println("Enter subject["+(i+1)+"] : ");
mark[i] = sc.nextInt();
}
}
void calculate()
{
for(i=0;i<5;i++)
{
total = total + mark[i];
}
avg = total/5;
```

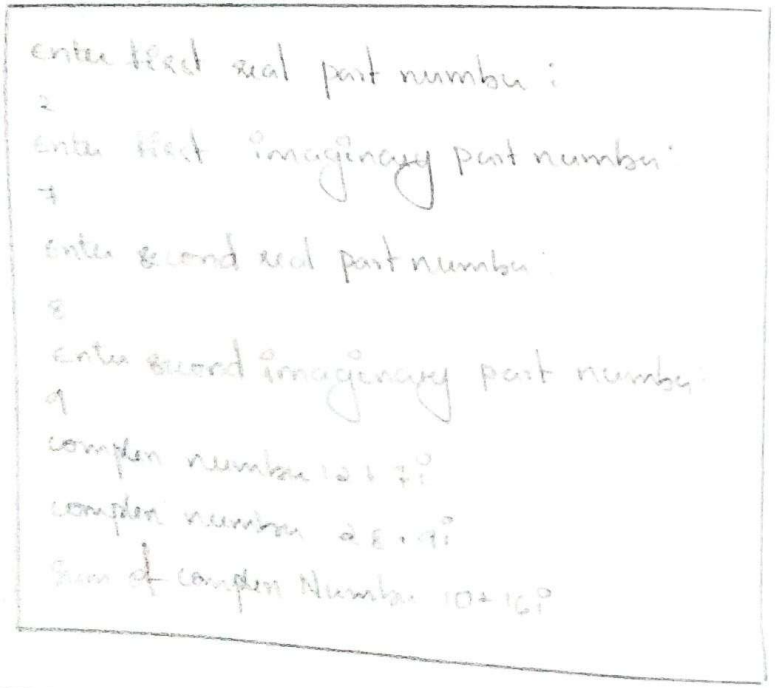
```
if (total >= 175)
{
result = "PASSED";
}
else
{
result = "FAILED";
}
}
void display()
{
  super display();
  System.out.println("It"+result);
}
}
class P11
{
 public static void main (String[] args)
 {
  Mark m[];
  int j=0;
  int n;
  Scanner sc = new Scanner (System.in);
  System.out.println("enter Number of students:");
  n= sc.nextInt();
  m= new Mark[n];
  for(j=0;j<n;j++)
  {
   m[j] =new Mark();
```

```
System.out.println("enter["+(j+1)+"] student
                                details ....");
m[j] read();
m[j].calculate();
}
System.out.println("student Details");
System.out.println("Admno/Result");
for(j=0;j<n;j++)
{
m[j].display();
}
}
}
```

CLASS DIAGRAM



OUTPUT



/ /

PROGRAM NO: 12 COMPLEX NUMBER

AIM:

Using class and objects, write a java program to find the sum of two complex numbers (Hint: Use Object as parameter to function)

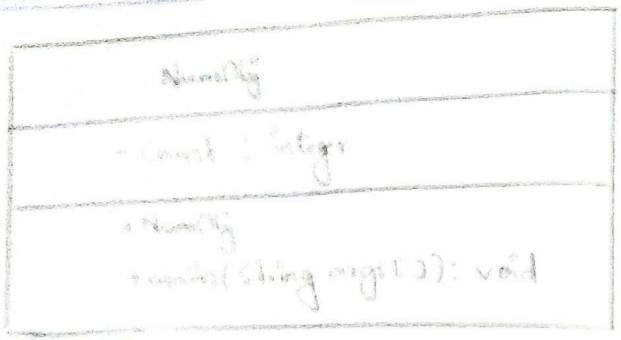
SOURCE CODE:

```
import java.util.*;
class Complex
{
int real, imaginary;
Complex()
{ }
Complex(int tempReal, int tempImaginary)
{
real = tempReal,
imaginary = tempImaginary;
}
Complex addComp(Complex c1, Complex c2)
{
 Complex temp = new Complex();
 temp.real = c1.real + c2.real;
 temp.imaginary = c1.imaginary + c2.imaginary;
 return temp;
}
}
Public class Comp
{
Public static void main(String args[])
```

~~CLASS DIAGRAM~~


```
}
Scanner sc = new Scanner(System.in);
System.out.println("Enter first real part number");
int a = sc.nextInt();
Complex c1 new System.out.println("Enter first imagi-
    nary part number");
int b = sc.nextInt();
Complex c1 = new Complex(a,b);
System.out.println("Enter second real part number");
int c = sc.nextInt();
System.out.println("Enter second imaginary part number");
int d = sc.nextInt();
Complex c2 = new Complex(c,d);
System.out.println("Complex number 1"+c1.real+"+"+c1.
  imaginary+"i");
System.out.println("Complex number 2"+c2.real+"+"+c2.
  imaginary+"i");
Complex c3 = new Complex();
c3=c3.add(comp(c1,c2);
System.out.println("Sum of Complex Number"+c3.real+
"+"+c3.imaginary+"i");
}
}
```

CLASS DIAGRAM



OUTPUT

PROGRAM NO 13 COUNT OBJECTS

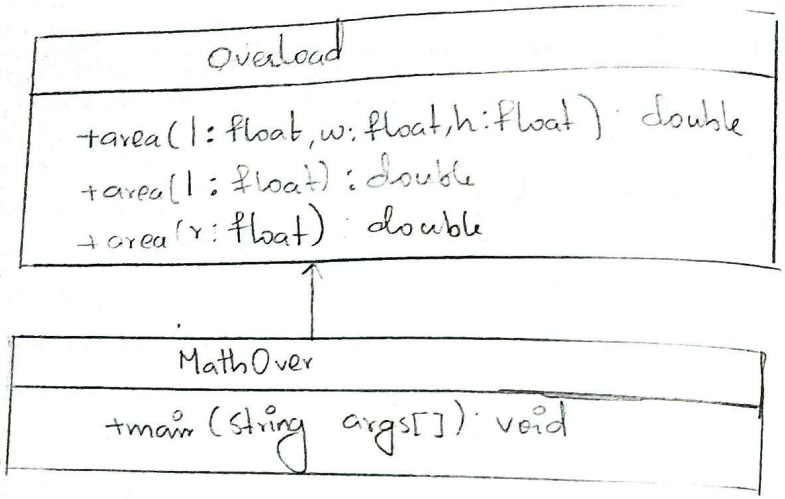
AIM

Write a program to count and display total numbe of objects created to a class (Hint: static members).

SOURCE CODE

```
public class NumObj
{
static int count=0;
NumObj()
{
count++;
}
public static void main(String args[])
{
NumObj obj1 = new NumObj();
NumObj obj2 = new NumObj();
NumObj obj3 = new NumObj();
NumObj obj4 = new NumObj();
System out println("Number of Objects created"+count);
}
}
```

CLASS DIAGRAM



OUTPUT

```
Enter the length, width and height of the rectangular
box
2
5
6
Volume of rectangular box 60.0
Enter the edge length of cube
4
Volume of cube is 64.0
Enter the radius and height of the cylinder
5
6
Volume of cylinder is 392.5
```

/ /

PROGRAM NO: 14 VOLUME

AIM

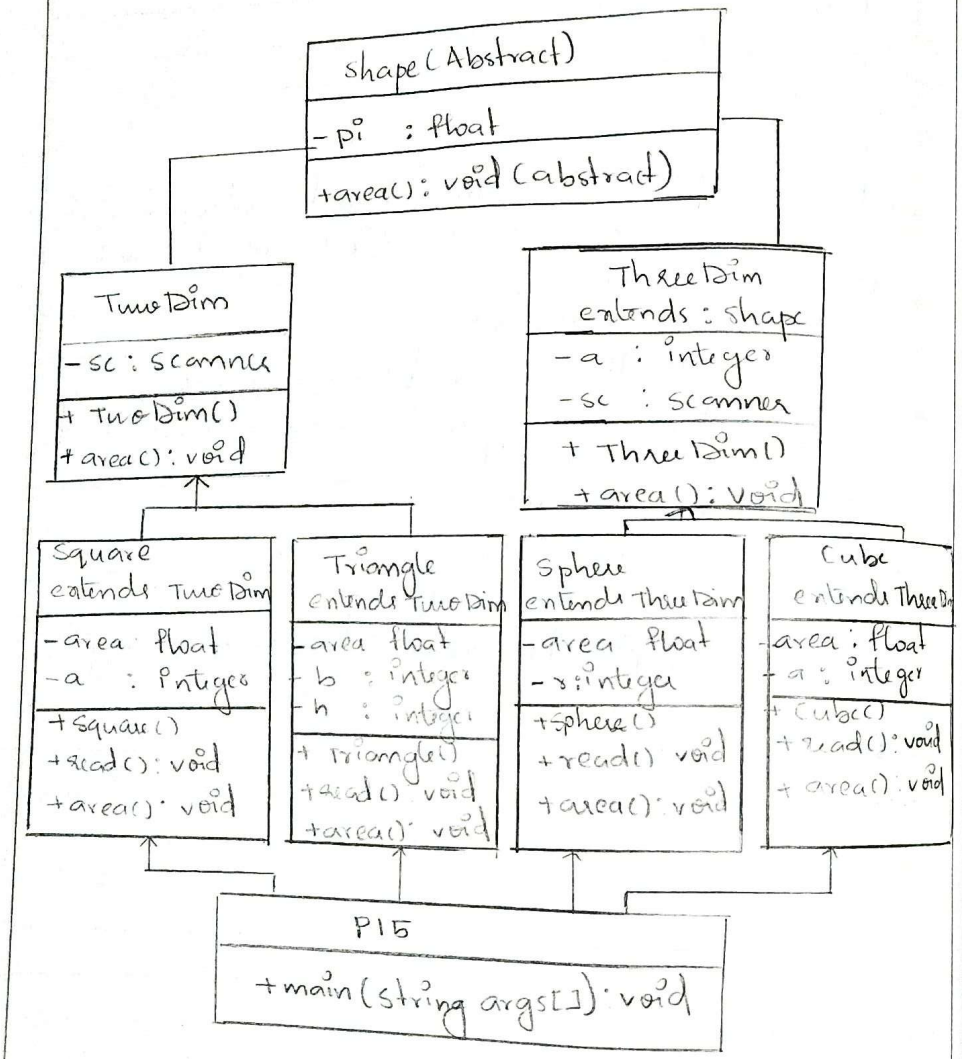
Write a java program to find the volume of cube, rectangular box, cylinder using function overloading

SOURCE CODE

```
import java.util.*;
class Overload
{
double area(float l, float w, float b)
{
return l*w*b;
}
double area(float l)
{
return l*l*l;
}
double area(float r, float h)
{
return 3.14*r*r*r;
}
}
Class MathOver
{
public static void main(String args[])
{
Overload ov=new Overload();
Scanner sc=new Scanner(System.in);
System.out.println("Enter the length, width and
height of the regular box");
```

```
float l = sc.nextInt();
float w = sc.nextInt();
System.out.print
float h = sc.nextInt();
double rect = ov.area(l,w,h);
System.out.println("Volume of rectangular box"+rect);
System.out.println("Enter the edge length of Cube");
float e = sc.nextInt();
double cube = ov.area(e);
System.out.println("Volume of Cube is" +cube);
System.out.println("Enter the radius and height of
                    the cylinder");
float r = sc.nextInt();
float hi = sc.nextInt();
double cyli = ov.area(r,hi);
System.out.println("Volume of cylinder is "+cyli);
}
}
```

CLASS DIAGRAM



PROGRAM NO 15 ABSTRACT CLASS

AIM

Create an abstract class shape and create TwoDim and ThreeDim as subclasses. Create classes square and triangle derived from TwoDim and sphere and cube derived from ThreeDim. Write a program to determine the area of various shapes.

SOURCE CODE

```
import java.util.Scanner;
abstract class Shape
{
final float pi = 3.14f;
abstract void area();
}
class TwoDim
{
Scanner sc;
TwoDim()
{
  sc = new Scanner (System.in);
}
void area()
{
}
}
class ThreeDim extends Shape
{
int a;
Scanner sc;
```

OUTPUT

```
Entu side of squaru:
3
Entu radius of spheu
3
Entu breadth of a triangle:
4
Entu heigh of a triangle:
6
Entu side of cubu
4
Area of squaru = 9.0
Area of sphere = 113.04
Area of Triangle = 12.0
Area of cubu = 96.0
```



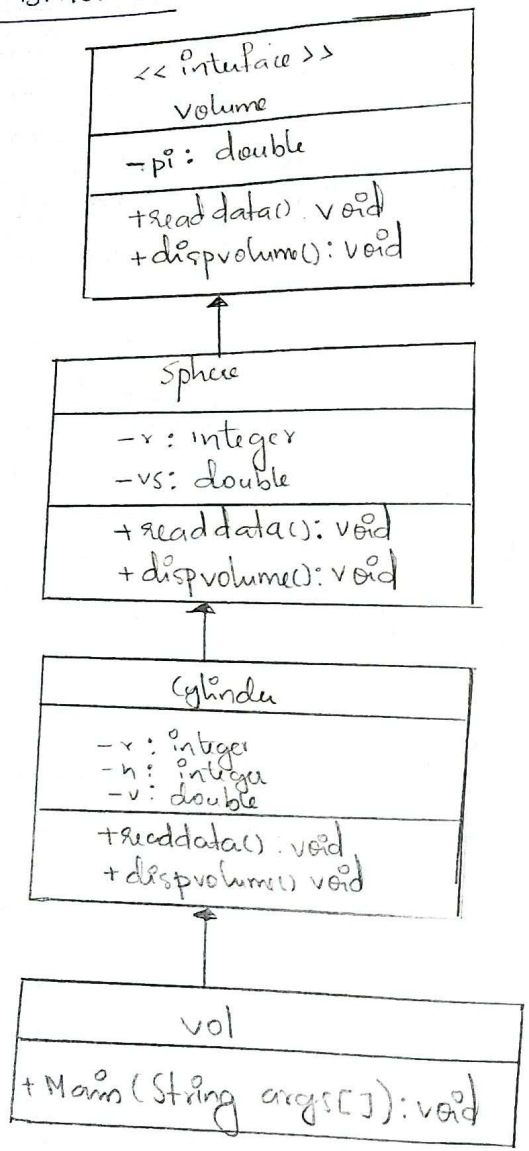
```
ThreeDim()
{
sc = new Scanner(System.in),
}
void area()
{
}
}
class Squaru entends TwoDim
{
float area;
int a;
Squaru()
{
supu();
a=0;
area = 0.0f;
}
void suad()
{
System.out.println("Entu side of a squaru");
a= sc.nentInt();
}
void arau()
{
area = a*a;
System.out.println("Area of squaru ="+area);
}
}
class Triangle entends TwoDim
```

```
}
float area;
int b;
int h;
Triangle()
{
super();
b=0;
h=0;
area = 0.0f;
}
void read()
{
System.out.println("Enter breadth of a triangle:");
b=sc.nextInt();
System.out.println("Enter height of a triangle");
h= sc.nextInt();
}
void area()
{
area=(b*h)/2;
System.out.println("Area of Triangle="+area);
}
}
class Sphere extends ThreeDim
{
float area;
int r;
Sphere()
```

```
System.out.println("Enter radius of sphere:");
r = sc.nextInt();

area = 4*3.14*r*r;
System.out.println("Area of Sphere = "+area);

class Cube extends ThreeDim

System.out.println("Enter side of cube:");
```

```
a = sc.nextInt();
}
void area()
{
area = 6*a*a;
System.out.println("Area of Cube = "+area);
}
}
class P15
{
public static void main(String args[])
{
Square s = new Square();
Triangle t = new Triangle();
Sphere sp = new Sphere();
Cube c = new Cube();
s.read();
sp.read();
t.read();
c.read();
s.area();
t.area();
sp.area();
c.area();
}
}
```

CLASS DIAGRAM



PROGRAM NO 16 INTERFACE VOLUME

AIM

(create an interface Volume with member variable pi and methods readdata() and dispvolume() (ca
two classes sphere and Cylinder to implement
this interface. Write a java program to find the volum

SOURCE CODE -

```
interface Volume
{
double pi= 3.14;
void readdata();
void dispvolume();
}
class Sphere implements Volume
{
int r=0;
double vs=0;
public void readdata()
{
 r=5;
}
 public void dispvolume()
 {
  vs=(4*pi*r*r*r)/3;
  System.out.println("volume of the Sphere "+vs);
 }
}
class Cylinder extends Sphere
{
```

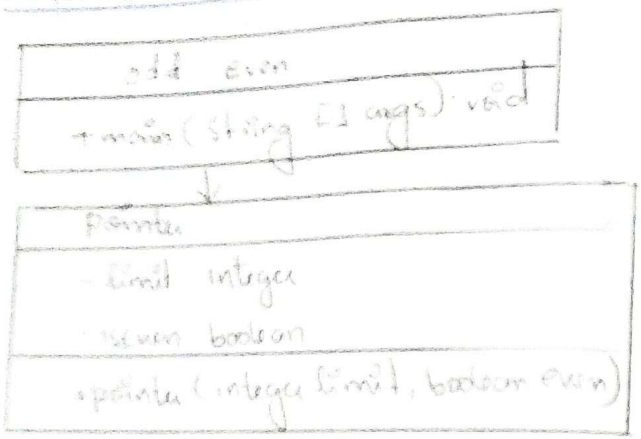
OUTPUT

```
Volume of the sphere : 523.333334
volume of the cylinder : 452.16
```

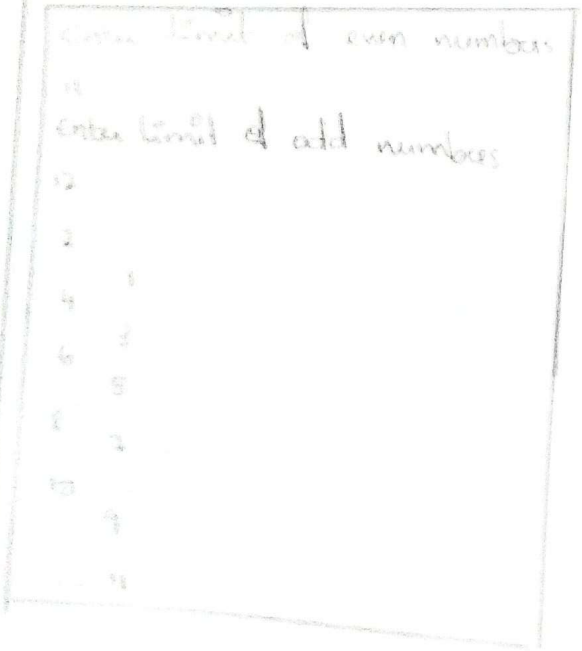


```
{
int r=0,h=0;
double v;
public void readdata()
{
super.readdata();
r=6;
h=4;
}
public void dispvolume()
{
super.dispvolume();
v=pi*r*r*h;
System.out.println("Volume of the Cylinder:"+v);
}
}
public class Vol
{
public static void main(String args[])
{
  Cylinder obj = new Cylinder();
   obj.readdata();
    obj.dispvolume();
}
}
```

CLASS DIAGRAM



OUTPUT



PROGRAM NO 17 MULTI THREAD

AIM

Write a multi thread java program for displaying add numbers and even numbers upto a limit (Hint Implement thread using Runnable interface)

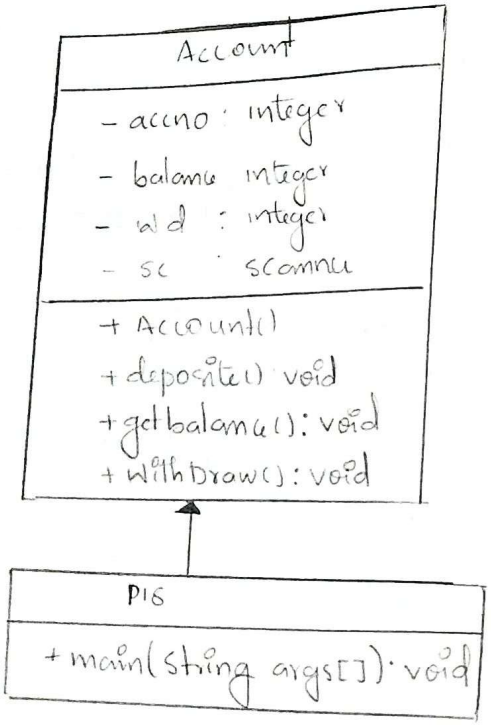
SOURCE CODE

```
import java.io.*;
import java.util.*;
class Even implements Runnable
{
Thread even;
int limit,i;
Even(int a)
{
even = new Thread(this,"Even");
limit =a;
even.start();
}
public void run()
{
try
 {
  for(i=2;i<limit;i=i+2)
  {
   System.out.println(i);
   Thread.sleep(500);
  }
}
```

```
catch (Exception e)
{
System.out.println(e);
}
}
}
class Odd implements Runnable
{
Thread odd;
int limit;
Odd(int b)
{
odd = new Thread(this,"odd");
limit = b;
odd.start();
}
public void run()
{
try
{
for(i=1;i<limit;i=i+2)
{
System.out.println("\t"+i);
Thread.sleep(500);
}
}
catch (Exception e)
{
System.out.println(e);
```

```
}
}
}
class MultiThread
{
public static void main(String args[]) throws
                                    IOException
{
int n1, n2;
Scanner sc = new Scanner(System.in);
System.out.println("Enter limit of even numbers");
n1 = sc.nextInt();
System.out.println("Enter limit of odd numbers");
n2 = sc.nextInt();
Even en = new Even(n1);
Odd od = new Odd(n2);
try
{
 Thread.sleep(10000);
}
catch(Exception e)
{
 System.out.println(e);
}
}
}
```

CLASS DIAGRAM



PROGRAM NO16 : ACCOUNT

AIM

Create a class Account to deposite and withdraw money from a bank. Create a user defined exception "MinBalExp" to be invoked when the withdrawal amount is greater than balance.

SOURCE CODE

```
import java.util.*;
class Account
{
int accno, balance, wd;
Scanner sc;
Account()
{
sc = new Scanner(System.in);
}
void deposite()
{
System.out.println("Enter Amount to deposite:");
int amount = sc.nextInt();
balance = balance + amount;
System.out.println("Amount deposited successfully");
}
void getbalance()
{
System.out.println("Balance = "+balance);
}
void withDraw()
```

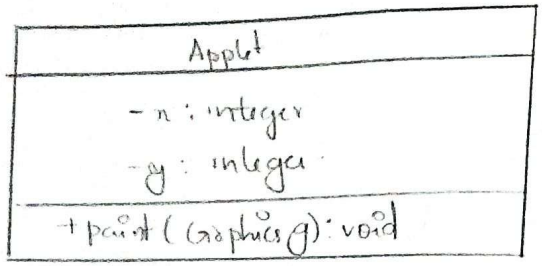
OUTPUT

```
Enter Amount to deposite
1000
Amount deposited successfully
Balance = 1000
Enter Amount to withdraw
500
Balance = 500
```



```
}
System.out.println("Enter Amount to withdraw:");
wd = sc.nextInt();
try
{
if(balance<wd)
throw new MinBalExp();
balance = balance-wd;
}
catch(MinBalExp e)
{
System.out.println("Insufficient balance");
}
}
class P18
{
public static void main(String args[])
{
Account a = new Account();
a.deposite();
a.getbalance();
a.withdraw();
a.getbalance();
}
}
```

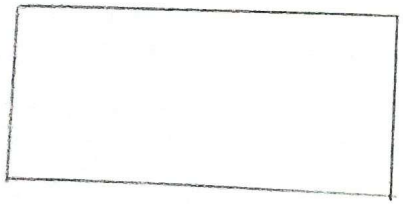
CLASS DIAGRAM



OUTPUT

Applet Viewer: Rectangle.class

Applet



PROGRAM NO: 19 APPLET

AIM:

Write an applet to display a rectangle with specified coordinate and colour passed as parameter from the HTML file.

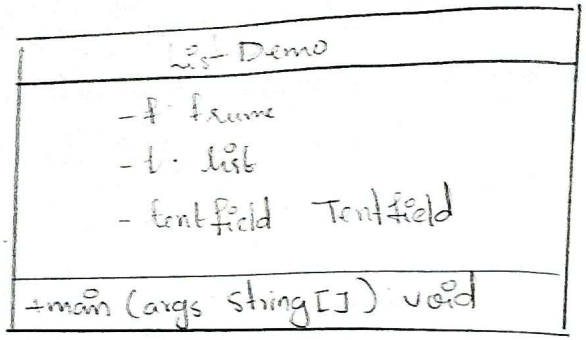
SOURCE CODE:

```
import java.awt.*;
import java.applet.*;
public class Rectangle extends Applet
{
public void paint (Graphics g)
{
 g.setColor(Color.pink);
 g.drawRect(120,50,100,160);
}
}
```

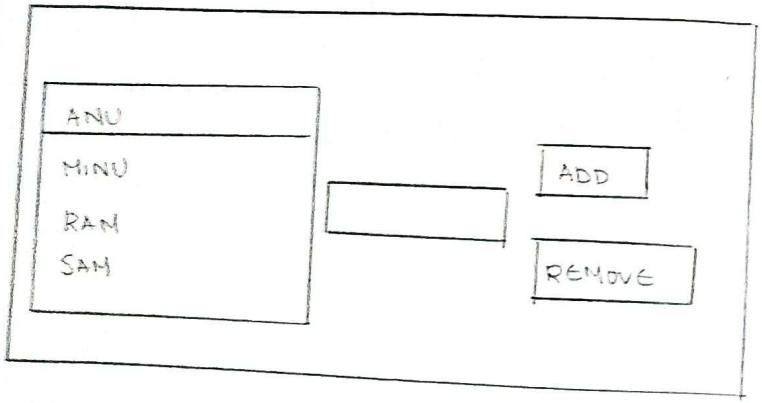
Rectangle.html

```
<html>
<body>
<Applet code="Rectangle.class" height="2000"
                               width="2000">
</Applet>
</body>
</html>
```

CLASS DIAGRAM



OUTPUT



PROGRAM NO: 20 AWT

AIM

Create an AWT application to add, remove items in a list box.

SOURCE CODE

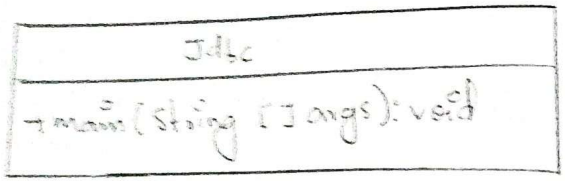
```
import java.applet.*;
import java.awt.*;
import java.awt.event.*;
public class Listbox extends Applet implements
                                ActionListener
{
List c = new List(4);
TextField f = new TextField(20);
Button b = new Button("ADD");
Button b1 = new Button("REMOVE");
public void init() { c.add("ANU");
c.add("MINU");
c.add("RAM");
c.add("SAM");
add(c);
add(f);
add(b);
add(b1);
b.addActionListener(this);
b1.addActionListener(this);
}
public void actionPerformed(ActionEvent e)
{
if (e.getSource() == b)
```

```
c.add(f.getText());
if(e.getSource()==b1)
c.remove(f.getText());
}
}
```

ListBox.html

```
<html>
<body>
<Applet code="ListBox.class" height="2000"
    width="2000">
</Applet>
</body>
</html>
```

CLASS DIAGRAM



OUTPUT

```
Emp ID: 1
Name John
Designation Manager
Department HR
Emp ID 2
Name Ajay
Designation developer
Department IT
Emp ID 3
Name Bob
Designation Analyst
Department Finance
```


PROGRAM NO: 21 JDBC

AIM:

Create a database table employee (id, name, design and dept.) and insert some records. Write a java program to list the employee details using JDBC.

SOURCE CODE

```
CREATE DATABASE emp_db;
CREATE TABLE employee(id Serial PRIMARY KEY, name
VARCHAR(25),
INSERT INTO employee(name, design, dept) VALUES
('John', 'manager', 'HR'), ('AJAY', 'DEVELOPER', 'IT'),
    ('Bob', 'Analyst', 'Finance');
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.Statement;
class jdbc
{
public static void main(String[] args)
{
String url = "jdbc:mysql://localhost:3306/emp_db";
String name = "root";
String pass = "root";
try
{
Class.forName("com.mysql.jdbc.Driver");
Connection con = DriverManager.getConnection(url, name,
    pass);
```

```
statement s = con.create statement();
String sql = "SELECT * FROM employee";
ResultSet res = s.executeQuery(sql);
while(res.next())
{
int rel = res.getInt("id");
String n = res.getString("name");
String d = res.getString("design");
String dp = res.getString("department");
System.out = println("emp ID = "+id);
system.out.println("Name:"+n);
system.out.println("Designation:"+dp);
System.out.println("Department:"+dp);
system.out.println();
}
res.close(); s.close, con close();
}
catch (except cone)
{
 c.print stact Erenu();
}
}
}
```