1(A). Finding Prime numbers between 1 and n

Aim: To develop a java program for printing prime numbers between 1 and n

Program:

```
//JAVA PROGRAM TO PRINT PRIME NUMBERS FROM 1 TO N
import java.util.*;
class Primegen
{
  public static void main(String args[])throws Exception
   {
     int n,i,j,fc;
     Scanner sc = new Scanner(System.in);
     System.out.print("\n\n\t ENTER THE VALUE FOR N....");
     n=sc.nextInt();
     System.out.print("\n\n\t THE PRIME NUMBERS BETWEEN 1 AND " + n +" ARE...");
     for(i=1;i<=n;i=i+1)
    {
       for(j=1,fc=0;j<=i;j=j+1)
        {
           if(i%j==0)
            {
              fc=fc+1;
            }
         }
If(fc==2)
{
System.out.print(“ “ +i);
}
}
}
}
```

Input/Output:

ENTER THE VALUE FOR N….10

THE PRIME NUMBERS BETWEEN 1 AND 10 ARE… 2 3 5 7

1(B). Printing all the real solutions of the Quadratic equation

Aim: To develop a java program for printing the roots of the given quadratic equation.

Program:

```
// JAVA PROGRAM TO PRINT THE ROOTS OF A QUADRATIC EQUATION
Import java.util.*;
Class Quadratic
{
Public static void main(String args[])throws Exception
{
 Int a,b,c;
Double d,r,r1,r2,p,q,z;
Scanner sc=new Scanner(System.in);
System.out.print("\n\n\t ENTER THE COEFFICIENT OF X*X…");
A=sc.nextInt();
System.out.print("\n\n\t ENTER THE COEFFICIENT OF X…");
B=sc.nextInt();
System.out.print("\n\n\t ENTER THE CONSTANT TERM……");
C=sc.nextInt();
D=(b*b)-(4*a*c);
 If(d==0)
{
R=-(b/(2*a));
System.out.print("\n\n\t THE ROOTS ARE REAL AND EQUAL");
System.out.print("\n\n\t THE ROOT IS…."+r);
}
Else if(d>0)
 {
 P=-(b/(2*a));
Q=(Math.sqrt(d))/(2*a);
R1=p+q;
R2=p-q;
System.out.print("\n\n\t THE ROOTS ARE REAL AND DISTINCT");
System.out.print("\n\n\t THE ROOTS ARE…."+r1 +"AND"+r2);
```

```
}
 Else
 {
Z=Math.abs(d);
P=-(b/(2*a));
Q=(Math.sqrt(z))/(2*a);
System.out.print("\n\n\t THE ROOTS ARE IMAGINARY");
System.out.print("\n\n\t THE FIRST ROOT IS…."+p+"+"+q+"I");
System.out.print("\n\n\t THE SECOND ROOT IS…"+p+"-"+q+"I");
}
}
}
```

Input/Output:

Trial Run-1:

ENTER THE COEFFICIENT OF X*X…2

ENTER THE COEFFICIENT OF X…3

ENTER THE CONSTANT TERM……1

THE ROOTS ARE REAL AND DISTINCT

THE ROOTS ARE….0.25AND-0.25

Trial Run-2

ENTER THE COEFFICIENT OF X*X…2

ENTER THE COEFFICIENT OF X…4

ENTER THE CONSTANT TERM……2

THE ROOTS ARE REAL AND EQUAL

THE ROOT IS….-1.0

Trial Run-3

ENTER THE COEFFICIENT OF X*X…1

ENTER THE COEFFICIENT OF X…-3

ENTER THE CONSTANT TERM……9

THE ROOTS ARE IMAGINARY

THE FIRST ROOT IS….1.0+2.598076211353316i

THE SECOND ROOT IS…1.0-2.598076211353316i

2(A).To find the factorial of a given number

Program:

```
//JAVA PROGRAM TO PRINT THE FACTORIAL OF A GIVEN NUMBER
Import java.util.*;
class Factorial
{
  public static void main(String args[])throws Exception
   {
    Scanner sc=new Scanner(System.in)
    int n,i;
    System.out.print("Enter the number");
    n=sc.nextInt();
    fact=1;
    for(i=1;i<=n;i=i+1)
       {
        fact=fact*i;
       }
    System.out.println("Factorial of "+n+" is: "+fact);
  }
}
```

Output :

Enter the number…..5

Factorial of 5 is :120

2(B).To find wheather given number is prime or not

Program:

```
//JAVA PROGRAM TO PRINT PRIME NUMBERS FROM 1 TO N
import java.util.*;
class Primechk
{
 public static void main(String args[])throws Exception
  {
   int n,i,fc;
   Scanner sc = new Scanner(System.in);
   System.out.print("\n\n\t ENTER NUMBER....");
   n=sc.nextInt();
   for(i=1;i<=n;i++)
    {
     if(i%j==0)
       {
         fc=fc+1;
       }
    }
    if(fc==2)
      {
       System.out.print("\n\n\t "+n +" IS PRIME NUMBER");
      }
    Else
     {
      System.out.print("\n\n\t"+ n +" IS NOT A PRIME NUMBER");
     }
  }
}
```

Input/Output:

ENTER THE NUMBER ….10

10 IS NOT A PRIME NUMBER

2(C).To print N terms of fibinacci series

Program:

```
//JAVA PROGRAM TO PRINT N TERMS OF FIBINACCI SERIES
import java.util.*;
class Fibgen
{
  public static void main(String args[])throws Exception
   {
    int t1,t2,t3,n,count;
    Scanner.sc=new Scanner(System.in);
    System.out.print("Enter the number of terms in series....");
    t1=0;
    t2=1;
    if(n==1)
     {
       System.out.print(t1);
     }
    else if(n==2)
     {
       System.out.print(t2);
     }
    else
     {
       System.out.print(t1+""+t2);
       t3=t1+t2;
       System.out.print(t3);
       count=3;
       while(count<=n)
        {
          t1=t2;
          t2=t3;
          t3=t1+t2;
          count=count+1
         System.out.print(n3);
```

```
    }
   }
  }
}
```

Input/Output:

Enter the number of terms in series…..10

0 1 1 2 3 5 8 13 21 34

3(A).TO FIND THE SUM OF THE INDIVIDUAL DIGITS OF A NUMBER

Program:

```
//JAVA PROGRAM TO FIND THE SUM OF THE INDIVIDUAL DIGITS OF A NUMBER
import java.util.*;
class Inddig
{
  public static void main(String[] args)
  {
    Scanner sc = new Scanner(System.in);
    int n, r, sum;
    System.out.println("Enter a number");
    n = sc.nextInt();
    sum = 0;
    while (n > 0)
    {
      r = n % 10;
      sum = sum + r;
      n = n / 10;
    }
    System.out.print("Sum of digits is " + sum);
  }
}
```

Input/Output:

Enter a number…143

Sum of digits is 8

3(B).Arithmetic calculator using switch case menu

Program:

```
// Java program to perform arithmetic operations using switch case.
import java.util.*;
class Simpcalc
{
 public static void main(String[] args) throws Exception
 {
  int ch;
  double n1,n2,result;
  Scanner sc=new Scanner(System.in);
  System.out.print("Enter First number: \n");
  n1=sc.nextDouble();
  System.out.print("Enter Second number: \n");
  n2=sc.nextDouble();
  System.out.print("\n1.Addition\n2.Subtraction\n3.Multiplication\n4.Division\n5.Modulus\n6.Exit\n");
  System.out.println("Enter your choice: \n");
  ch=sc.nextInt();
  switch(ch)
  {
   case 1:
        result=n1+n2;
        System.out.print("Addition of two numbers: "+result);
        break;
   case 2:
        result=n1-n2;
        System.out.print("Subtraction of two numbers: "+result);
        break;
   case 3:
        result=n1*n2;
        System.out.print("Multiplication of two numbers: "+result);
        break;
   case 4:
        result=n1/n2;
```

```
System.out.print("Division of two numbers: "+result);
        break;
    case 5:
        result=n1%n2;
        System.out.print("Modulus of two numbers: "+result);
        break;
    case 6:
        System.exit(0);
        break;
       default:
        System.out.print("Invalid choice");
        break;
     }
  }
}
```

Input/Output:

```
Enter First number:
143
Enter Second number:
12

1.Addition
2.Subtraction
3.Multiplication
4.Division
5.Modulus
6.Exit
Enter your choice: 4
Division of two numbers: 11.916666666666666
```

4(A).Product of two matrices

Program :

```
// java program for multiplication of two matrices
import java.util.*;
class Matrixmul
{
 public static void main(String args[])throws Exception
 {
 int m,n,p,q,i,j,k,a[][],b[][],c[][];
 Scanner sc= new Scanner(System.in);
 System.out.print("\n\n\t ENTER THE NUMBER OF ROWS IN THE FIRST MATRIX...");
 m=sc.nextInt();
 System.out.print("\n\n\t ENTER THE NUMBER OF COLUMNS IN THE FIRST MATRIX...");
 n=sc.nextInt();
 System.out.print("\n\n\t ENTER THE NUMBER OF ROWS IN THE SECOND MATRIX...");
 p=sc.nextInt();
 System.out.print("\n\n\t ENTER THE NUMBER OF COLUMNS IN THE SECOND MATRIX...");
 q=sc.nextInt();
 a=new int[m][n];
 b=new int[p][q];
 c=new int[m][q];
 if(n==p)
  {
   System.out.print("\n\n\t ENTER THE ELEMENTS OF THE FIRST MATRIX...");
   for(i=0;i<m;i=i+1)
    {
     for(j=0;j<n;j=j+1)
      {
       System.out.print("\n\n\t ENTER THE ELEMENT-a["+i+"]["+j+"]...");
       a[i][j]=sc.nextInt();
      }
    }
   System.out.print("\n\n\t ENTER THE ELEMENTS OF THE SECOND MATRIX...");
```

```
for(i=0;i<p;i=i+1)
 {
  for(j=0;j<q;j=j+1)
   {
     System.out.print("\n\n\t ENTER THE ELEMENT-b["+i+"]["+j+"]...");
     b[i][j]=sc.nextInt();
   }
 }
 System.out.print("\n\n\t THE ELEMENTS OF THE FIRST MATRIX ARE...\n");
 for(i=0;i<m;i=i+1)
  {
    for(j=0;j<n;j=j+1)
   {
     System.out.print(" "+a[i][j]);
   }
   System.out.print("\n");
  }
  System.out.print("\n\n\t THE ELEMENTS OF THE SECOND MATRIX ARE...\n");
  for(i=0;i<p;i=i+1)
   {
    for(j=0;j<n;j=j+1)
     {
       System.out.print(" "+b[i][j]);
     }
       System.out.print("\n");
   }
  for(i=0;i<m;i=i+1)
  {
   for(j=0;j<q;j=j+1)
    {
     c[i][j]=0;
    }
  }
  for(i=0;i<m;i=i+1)
   {
```

```
      for(j=0;j<q;j=j+1)
       {
        for(k=0;k<n;k=k+1)
         {
           c[i][j]=c[i][j]+(a[i][k]*b[k][j]);
         }
       }
      }
     System.out.print("\n\n\t THE PRODUCT OF TWO MATRICES IS...\n");
     for(i=0;i<m;i=i+1)
      {
       for(j=0;j<q;j=j+1)
        {
          System.out.print(" "+c[i][j]);
        }
       System.out.print("\n");
      }
    }
    else
    {
     System.out.print("\n\n\t MATRIX MULTIPLICATION IS NOT POSSIBLE DUE TO DIMENSIONS");
    }
  }
}
```

Input/Output:

Trial Run-1

ENTER THE NUMBER OF ROWS IN THE FIRST MATRIX...2

ENTER THE NUMBER OF COLUMNS IN THE FIRST MATRIX...2

ENTER THE NUMBER OF ROWS IN THE SECOND MATRIX...3

ENTER THE NUMBER OF COLUMNS IN THE SECOND MATRIX...3

MATRIX MULTIPLICATION IS NOT POSSIBLE DUE TO DIMENSIONS

Trial Run-2

ENTER THE NUMBER OF ROWS IN THE FIRST MATRIX...2

ENTER THE NUMBER OF COLUMNS IN THE FIRST MATRIX...2

ENTER THE NUMBER OF ROWS IN THE SECOND MATRIX...2

ENTER THE NUMBER OF COLUMNS IN THE SECOND MATRIX...2

ENTER THE ELEMENTS OF THE FIRST MATRIX...

ENTER THE ELEMENT-a[0][0]...1

ENTER THE ELEMENT-a[0][1]...2

ENTER THE ELEMENT-a[1][0]...3

ENTER THE ELEMENT-a[1][1]...4

ENTER THE ELEMENTS OF THE SECOND MATRIX...

ENTER THE ELEMENT-b[0][0]...1

ENTER THE ELEMENT-b[0][1]...0

ENTER THE ELEMENT-b[1][0]...0

ENTER THE ELEMENT-b[1][1]...1

THE ELEMENTS OF THE FIRST MATRIX ARE...

1 2

3 4

THE ELEMENTS OF THE SECOND MATRIX ARE...

1 0

0 1

THE PRODUCT OF TWO MATRICES IS...

1 2 3 4

4(B).Method Overloading

Program :

```
//JAVA PROGRAM TO IMPLEMENT METHOD OVERLOADING
import java.util.*;
class Overload
{
 public static void main(String args[])throws Exception
 {
 int s,x,ch;
 float ln,br,y;
 double a,b,c,z;
 Scanner sc=new Scanner(System.in);
 do
 {
  System.out.print("\n\n\t-----MENU-----");
  System.out.print("\n\n\t 1...AREA OF SQUARE");
  System.out.print("\n\n\t 2...AREA OF RECTANGLE");
  System.out.print("\n\n\t 3...AREA OF TRIANGLE");
  System.out.print("\n\n\t 4...EXIT");
  System.out.print("\n\n\t ENTER YOUR CHOICE...");
  ch=sc.nextInt();
  switch(ch)
  {
  case 1:
    System.out.print("\n\n\t ENTER THE SIDE OF THE SQUARE...");
    s=sc.nextInt();
    x=area(s);
    System.out.print("\n\n\t THE AREA OF SQUARE IS..."+x);
    break;
  case 2:
    System.out.print("\n\n\t ENTER THE LENGTH OF THE RECTANGLE...");
    ln=sc.nextFloat();
    System.out.print("\n\n\t ENTER THE BREADTH OF THE RECTANGLE...");
    br=sc.nextFloat();
```

```
    y=area(ln,br);
    System.out.print("\n\n\t THE AREA OF RECTANGLE IS..."+y);
    break;
   case 3:
    System.out.print("\n\n\t ENTER THE LENGTH OF SIDE-1...");
    a=sc.nextDouble();
    System.out.print("\n\n\t ENTER THE LENGTH OF SIDE-2...");
    b=sc.nextDouble();
    System.out.print("\n\n\t ENTER THE LENGTH OF SIDE-3...");
    c=sc.nextDouble();
    z=area(a,b,c);
    System.out.print("\n\n\t THE AREA OF TRIANGLE IS..."+z);
    break;
   case 4:
    System.exit(0);
    default:
    System.out.print("\n\n\t INVALID CHOICE");
    }
  }while(ch>=1 && ch<=3);
 }
public static int area(int s)
{
 int p;
 p=s*s;
 return(p);
}
public static float area(float ln,float br)
{
float p;
p=ln*br;
return(p);
}
public static double area(double a, double b, double c)
{
double s,p;
```

```
s=(a+b+c)/2;
p=Math.sqrt(s*(s-a)*(s-b)*(s-c));
return(p);
}
}
```

Input/Output:

```
-----MENU-----
1...AREA OF SQUARE
2...AREA OF RECTANGLE
3...AREA OF TRIANGLE
4...EXIT
ENTER YOUR CHOICE...1
ENTER THE SIDE OF THE SQUARE...3
THE AREA OF SQUARE IS...9
-----MENU-----
1...AREA OF SQUARE
2...AREA OF RECTANGLE
3...AREA OF TRIANGLE
4...EXIT
ENTER YOUR CHOICE...2
ENTER THE LENGTH OF THE RECTANGLE...4
ENTER THE BREADTH OF THE RECTANGLE...5
THE AREA OF RECTANGLE IS...20.0
-----MENU-----
1...AREA OF SQUARE
2...AREA OF RECTANGLE
3...AREA OF TRIANGLE
4...EXIT
ENTER YOUR CHOICE...3
ENTER THE LENGTH OF SIDE-1...4
ENTER THE LENGTH OF SIDE-2...5
ENTER THE LENGTH OF SIDE-3...6
THE AREA OF TRIANGLE IS...9.921567416492215
-----MENU-----
1...AREA OF SQUARE
```

2...AREA OF RECTANGLE

3...AREA OF TRIANGLE 4...EXIT

ENTER YOUR CHOICE...4

4(C).Method Overriding

Program :

```
//JAVA PROGRAM TO IMPLEMENT METHOD OVERRIDING
import java.util.*;
class Person
{
 public void display()
 {
 System.out.print("\n\n\t PERSON");
 }
}
class Doctor extends Person
{
 public void display()
 {
 System.out.print("\n\n\t DOCTOR");
 }
}
class Override
{
 public static void main(String args[])
 {
 Person p=new Person();
 Doctor d=new Doctor();
 p.display();
 d.display();
 }
}
```

Input/Output:

```
 PERSON
 DOCTOR
```

5(A).Creating Student Class

Program :

```
import java.util.*;
class Students
  {
    String rollno;
    String name;
    String branch;
    double phoneno;

    public void accept_det()
    {
      Scanner sc=new Scanner(System.in);
      System.out.println("Enter the rollno");
      rollno=sc.next();
      System.out.println("Enter the name");
      name=sc.next();
      System.out.println("Enter the branch");
      branch=sc.next();
      System.out.println("Enter the phoneno");
      phoneno=sc.nextDouble();
    }
    public void display_det()
    {
      System.out.println("The entered roll no is" +rollno);
      System.out.println("The entered name is" +name);
      System.out.println("The entered branch is" +branch);
      System.out.println("The entered phoneno is" +phoneno);

    }
  }
class Demo
  {
```

```
    public static void main(String args[]) throws Exception
    {
      Scanner sc=new Scanner(System.in);
      Students s[];
      int n;
      System.out.println("Enter the number of students");
      n=sc.nextInt();
      s=new Students[n];
      for(int i=0;i<n;i++)
        {
          s[i]=new Students();
        }
      for(int i=0;i<n;i++)
        {
          s[i].accept_det();
        }
    }
  }
```

Input/Output:

Enter the number of students

4

Enter the rollno

222U1A3380

Enter the name

P.SAICHARAN

Enter the branch

CSM-B

Enter the phoneno

949094490

Enter the rollno

222U1A3393

Enter the name

SK.JAMEER

Enter the branch

CSM-B

Enter the phoneno

8309909623

Enter the rollno

222U1A33A7

Enter the name

S.JEEVA

Enter the branch

CSM-B

Enter the phoneno

7981196501

Enter the rollno

222U1A33C8

Enter the name

V.MANOJ

Enter the branch

CSM-B

Enter the phoneno

8328351087

Entered rollno is

222U1A3380

Entered name is

P.SAICHARAN

Entered branch is

CSM-B

Entered phoneno is

9490944940

Entered rollno is

222U1A3393

Entered name is

SK.JAMEER

Entered branch is

CSM-B

Entered phoneno is

8309909623

Entered t rollno is

222U1A33A7

Entered name is

S.JEEVA

Entered branch is

CSM-B

Entered phoneno is

7981196501

Entered rollno is

222U1A33C8

Entered name is

V.MANOJ

Entered branch is

CSM-B

Entered phoneno is

8328351087

5(B). Use of Inheritance,using Final

Aim: To develop a java program for illustrating the usage of final keyword with class

Program:

```
//JAVA PROGRAM TO ILLUSTRATE THE USAGE OF FINAL KEYWORD WITH A CLASS
final class Simple1
 {
  public void display( )
  {
   System.out.print("\n\n\t BASE CLASS");
  }
 }
class Simple2 extends Simple1
 {
  public void display( )
  {
   System.out.print("\n\n\t DERIVED CLASS");
  }
 }
class Finaldemo3
 {
  public static void main(String args[ ])
  {
   Simple2 s=new Simple2( );
   s.display( );
  }
 }
```

Input/Output:

```
Finaldemo3.java:9: error: cannot inherit from final Simple1
class Simple2 extends Simple1
^
1 error
```

&Abstract Class

Aim: To develop a java program for creating an abstract class and extend classes from it

Program:

```
//JAVA PROGRAM TO CREATE AN ABSTRACT CLASS AND EXTEND CLASSES FROM IT

import java.util.*;

abstract class Shape

{

   int x,y;

  abstract public void area( );

}

class Rectangle extends Shape

{

   public void accept( ) throws Exception

   {

      Scanner sc= new Scanner(System.in);

      System.out.print("\n\n\t ENTER THE LENGTH OF THE RECTANGLE...");

      x=sc.nextInt( );

      System.out.print("\n\n\t ENTER THE BREADTH OF THE RECTANGLE....");

      y=sc.nextInt( );

  }

  public void area( )

 {

    System.out.print("\n\n\t THE AREA OF THE RECTANGLE IS ... "+(x*y));

}

}
```

```
  class Triangle extends Shape
{
   public void accept( )throws Exception
 {
    Scanner sc= new Scanner(System.in);
    System.out.print("\n\n\t ENTER THE BASE OF THE TRIANGLE ...");
    x=sc.nextInt( );
    System.out.print("\n\n\t ENTER THE HEIGHT OF THE TRIANGLE .. ");
   y=sc.nextInt( );
 }
 public void area( )
{
   System.out.print("\n\n\t THE  AREA OF THE TRIANGLE IS..."+(0.5*x*y));
}
}
class Circle extends Shape
{
   public void accept( )throws Exception
   {
      Scanner sc= new Scanner(System.in);
      System.out.print("\n\n\t ENTER THE RADIUS OF THE CIRCLE...");
      x=sc.nextInt( );
     }
    public void area( )
    {
```

```
        System.out.print("\n\n\t THE AREA OF CIRCLE IS... "+(3.14*x*x)
}
  }
  class Shapedemo
  {
    public static void main(String args[]) throws Exception
    {
      Rectangle r = new Rectangle( );
      Triangle t = new Triangle( );
      Circle c = new Circle( );
      r.accept( );
      r.area( );
     t.accept( );
      t.area( );
      c.accept( );
      c.area( );
    }
  }
```

Input/Output:

```
        ENTER THE LENGTH OF THE RECTANGLE...3
        ENTER THE BREADTH OF THE RECTANGLE ... 4
        THE AREA OF THE RECTANGLE IS ...12
        ENTER THE BASE OF THE TRIANGLE ... 4
        ENTER THE HEIGHT OF THE TRIANGLE ..5
        THE AREA OF THE TRIANGLE IS .. 10.0
        ENTER THE RADIUS OF THE CIRCLE .. 3
       THE AREA OF CIRCLE IS ..... 28.25999999999999
```

6(A).Creating a User defined Exception

Program:

Aim: To develop a java program for creating a user defined exception

```
//JAVA PROGRAM TO CREATE A USER DEFINED EXCEPTION
import java.util.*;
class Simple extends Exception
{
        Simple(String s)
    {
        super(s);
    }
  }

  class Simpledemo
  {
    public static void main(String args[ ])
    {
      int n;
      Scanner sc = new Scanner(System.in);
      System.out.print("\n\n\t ENTER THE AGE OF THE PERSON...");
      n=sc.nextInt( );
      if(n<18)
      {
        try
        {
        throw new Simple("AGE SHOULD BE GREATER THAN 18");
        }
```

```
        catch(Exception e)
        {
          System.out.print(e);
        }
      }
      else
      {
        System.out.print("\n\n\t ELIGIBLE FOR VOTING");
      }
    }
}
```

Input/Output:

ENTER THE AGE OF THE PERSON...15

Simple: AGE SHOULD BE GREATER THAN 18

6(B).Splitting a File into n-parts

Aim: To develop a java program for splitting a file

Program:

```
//JAVA PROGRAM FOR SPLITTING A FILE
import java.io.*;
import java.util.*;
class Split
 {
  public static void main(String args[])throws Exception
  {
   String f,s;

   Scanner sc=new Scanner(System.in);
   System.out.print("\n\n\t ENTER THE FILE NAME       ");
   f=sc.next();

   BufferedReader br1 = new BufferedReader(new
   FileReader(f)); int lc=0;
   System.out.print("\n\n\t THE CONTENTS OF THE FILE ARE");

   while((s=br1.readLine())!=null)
    {
     System.out.print("\n\n\t"+s);
     System.out.print("\n");
     lc++;
    }
   System.out.println("\n\n\t NUMBER OF LINES IN THE FILE IS" + lc);

   int nof;

   System.out.print("\n\n\t ENTER THE NUMBER OF FILES      ");

   nof=sc.nextInt();System.out.println("\n\n\tNUMBER OF FILES TO BE GENERATED     IS..."+nof);
   br1.close( );
   BufferedReader br2= new BufferedReader(new
   FileReader(f)); String sl;
   int p=lc/nof;

   for (int j=1;j<=nof;j++)
    {
     FileWriter fw = new FileWriter("F:/File"+j+".txt");
     BufferedWriter bw = new BufferedWriter(fw);
     for (int i=1;i<=p;i++)
      {
       sl = br2.readLine();
       if (sl!= null)
       {
        bw.write(sl);
```

```
            if(i!=p)
            {
              bw.newLine();
            }
           }
          }
        bw.close();
      }
    System.out.print("\n\n\t THE CONTENTS OF FILE-1 ARE...\n");
    BufferedReader br3=new BufferedReader(new
    FileReader("F:/File1.txt"));
    while((s=br3.readLine())!=null)
      {
       System.out.print("\n\n\t"+s);
       System.out.print("\n");
      }
    System.out.print("\n\n\t THE CONTENTS OF FILE-2 ARE...\n");
    BufferedReader br4=new BufferedReader(new
    FileReader("F:/File2.txt"));
    while((s=br4.readLine())!=null)
      {
       System.out.print("\n\n\t"+s);
       System.out.print("\n");
      }
   }
  }
```

Input/Output:

```
ENTER THE FILE NAME ..... proverb.txt

          THE CONTENTS OF THE FILE ARE...

         TIME IS PRECIOUS

         BE BRAVE IN DIFFICULT TIMES

          NUMBER OF LINES IN THE FILE IS... 2

          ENTER THE NUMBER OF FILES... 2

         NUMBER OF FILES TO BE GENERATED IS.. 2

          THE CONTENTS OF FILE-1 ARE...

         TIME IS PRECIOUS

          THE CONTENTS OF FILE-2 ARE...

         BE BRAVE IN DIFFICULT TIMES
```

7(A).Displaying the information about the given File

Aim: To develop a java program for displaying the information about the given file

Program:

```
//JAVA PROGRAM TO DISPLAY THE INFORMATION ABOUT A FILE
import java.util.*;
import java.io.*;
class FileInfo
{
  public static void main(String args[ ])throws Exception
  {
    String s;
    Scanner sc= new Scanner(System.in);
    System.out.print("\n\n\t ENTER THE FILE NAME ....");
    s=sc.next( );
    File f1=new File(s);
    if(f1.exists( ))
    {
      System.out.print("\n\n\t FILE EXISTS");
     }
   else
    {
      System.out.print("\n\n\t FILE DOES NOT EXIST");
    }
    if(f1.canRead( ))
    {
      System.out.print("\n\n\t FILE IS READABLE");
    }
```

```
        else
        {
           System.out.print("\n\n\tFILE IS NOT READABLE");
         }
        if(f1.canWrite( ))
       {
          System.out.print("\n\n\t FILE IS WRITEABLE");
       }
       else
        {
           System.out.print("\n\n\t FILE IS NOT WRITABLE");
         }

        System.out.print("\n\n\t THE LENGTH OF THE FILE IS.... "+f1.length( ));
    }
  }
```

Input/Output:

ENTER THE FILE NAME F:\Sdemo.java

FILE EXISTS

FILE IS READABLE FILE IS WRITEABLE

THE LENGTH OF THE FILE IS 1103

7(B).Counting the no.of characters,words and lines in a file

Aim: To develop a java program for displaying the contents of a file along with line number

Program:

```
//JAVA PROGRAM TO DISPLAY THE CONTENTS OF A FILE ALONG WITH LINE NUMBER
import java.util.*;
import java.io.*;
class LineRead
 {
  public static void main(String args[ ])throws Exception
  {
    String s,l;

    Scanner sc= new Scanner(System.in);
    System.out.print("\n\n\t ENTER THE FILE NAME");
    s=sc.next( );
    LineNumberReader lnr = new LineNumberReader(new FileReader(s));
    while((l=lnr.readLine())!=null)
      {
       System.out.print("\n\n\t LINE-"+ lnr.getLineNumber( ) +":"+l);
      }
  }
```

Input/Output:

Create a text file with the following content and name it as Proverb.txt

BE BRAVE AND FACE THE DIFFICULT SITUATION

TIME IS PRECIOUS

```
ENTER THE FILE NAME     F:\Proverb.txt
LINE-1:BE BRAVE AND FACE THE DIFFICULT SITUATIONS
LINE-2:TIME IS PRECIOUS
```

8.Creating a zero division error Exception

Or

Division Exception

Aim: To develop a java program for performing division of two numbers using exceptions

Program:

```
//JAVA PROGRAM FOR HANDLING EXCEPTIONS
import java.awt.*;
import java.applet.*;
import java.awt.event.*;
import javax.swing.*;
/* <applet code="Division" width="500" height="500">
</applet>
*/
public class Division extends Applet implements ActionListener
  {
    Label l1,l2,l3; TextField tf1, tf2, tf3; Button b;
    public void init( )
    {
      l1= new Label("ENTER THE FIRST NUMBER");
      l2=new Label("ENTER THE SECOND NUMBER");
      l3=new Label("RATIO OFTWO NUMBERS IS");
      tf1=new TextField( );
      tf2=new TextField( );
      tf3=new TextField( );
      b= new Button("DIVIDE");
      add(l1);
      add(tf1);
      add(l2);
      add(tf2);
```

```
    add(l3);
    add(tf3);
    add(b);
    b.addActionListener(this);
  }
  public void actionPerformed(ActionEvent ae)
  {
    String s1=tf1.getText( );
    String s2=tf2.getText( );
    int a=Integer.parseInt(s1);
    int b=Integer.parseInt(s2);
    int c=0;
    try
      {
       c=a/b;
      }
    catch(Exception e)
      {
       JOptionPane.showMessageDialog(this,"ARITHMETIC
EXCEPTION","EXCEPTION",JOptionPane.ERROR_MESSAGE);
      }
    String z=Integer.toString(c);
    tf3.setText(z);
  }
 }
```

Input/Output: