1. **编写一个Java应用程序，输入代表华氏温度的整数值，计算出相应的摄氏温度的小数。利用如下公式进行换算：C = 5(F – 32)/9.**

**import java.io.\*;**

**public class Tempch {**

**public static void main( String args[] ) throws IOException{**

**System.out.println("Input F is:");**

**InputStreamReader ir=new InputStreamReader(System.in);**

**BufferedReader in= new BufferedReader(ir);**

**String s=in.readLine();**

**int f=Integer.parseInt(s);**

**double c = 5\*(f – 32)/9.0;**

**System.out.println(“c= "+c);**

**} }**

2、 创建类SaveAccount。包括储户年利率, 每个储户现在的存款余额。提供方法计算月息：用存款余额乘以年利率再除以12；月息也应加到存款余额中。提供一个方法，设置年利率的新值。编写程序测试SaveAccount。实例化两个不同的SaveAccount对象，saver1和saver2，分别有存款2000.00和3000.00元。将年利率设置为4%，然后计算月息，并且打印每个储户的新存款余额。

**// SaveAccountTest.java**

**class SaveAccount{**

**static double rate;**

**private double saving;**

**public SaveAccount( double s)**

**{ setSaving( s ); }**

**public void setSaving( double s )**

**{saving = s; }**

**public double getSaving () { return saving; }**

**public static void modifyRate( double r )**

**{SaveAccount.rate = r; }**

**public double calculate( )**

**{return saving\*rate/12;} }**

**public class SaveAccountTest {**

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

**SaveAccount saver1=new SaveAccount(2000.00);**

**SaveAccount saver2=new SaveAccount(3000.00);**

**SaveAccount.modifyRate( 0.04 ) ;**

**System.out.println(“ saver1新存款余额: ” +**

**(saver1.getSaving () + saver1.calculate() ) );**

**System.out.println(“ saver2新存款余额: ” + (saver2.getSaving ()**

**+saver2.calculate() ) );**

**}**

**}**

4、编写一个计算图形面积周长的程序，程序应当能够计算并输出矩形、圆的面积与周长。考虑到程序的未来扩展，设计一个接口Shape，在此基础上设计图形类Rectangle类和Circle类。并由Test类完成测试功能：生成Rectangle、Circle对象，调用对象的toString方法，输出对象的描述信息。

（1）Rectangle类基本信息：宽度、高度。

（2）Cirlce类基本信息：圆心坐标、半径。

（3）每个图形类有多个构造方法：默认构造方法、带参数的构造方法。

（4）每个图形类有计算图形面积getArea()方法，计算机图形周长getPerimeter()方法，显示图形的基本信息toString()方法。

interface ShapeArea {

public abstract double getArea();

public abstract double getPerimeter();

public abstract String toString();}

class Rectangle implements ShapeArea {

private double width;

private double height;

public Rectangle(double w, double h) { width = w; height = h; }

public Rectangle() { this(0, 0); }

public double getArea() { return width \* height; }

public double getPerimeter() {return 2\*(width+height);}

public double getWidth() { return width; }

public void setWidth(double w) { width = w; }

public double getHeight() { return height;Java }

public void setHeight(int h) { height = h; }

public String toString() { return("Rectangle: width = " + width + ", height = " + height); } }

class Circle implements Shape {

private double x;

private double y;

private double radius;

public Circle(double xx, double yy, double r) { x = xx; y = yy; radius = r; }

public double getArea() { return Math.PI \* radius \* radius; }

public double getPerimeter() {return Math.PI\*2\*radius;}

public double getRadius() { return radius; }

public void setRadius(double r) { radius = r; }

public double getX() { return x; }

public void setX(double xx) { x = xx; }

public double getY() { return y; }

public void setY(double yy) { y = yy; }

public void setXY(double xx, double yy) { x = xx; y = yy; }

public String toString() {return("Circle: (" + x + ", " + y + "), radius = " + radius); } }

public class Test { public static void main(String[] args) {

Rectangle r = new Rectangle(10, 10);

Circle c = new Circle(10, 10, 50);

System.out.println(r);

System.out.println(r.toString+" area = " + r.getArea()+” Perimeter = ”+r.getPerimeter());

System.out.println(c);

System.out.println(c.toString+" area = " + c.getArea()+” Perimeter = ”+c.getPerimeter());

}

3、从命令行输入需要排序的个数,将随机产生的数进行升序排序。

**// BubbleSort1.java**

**import java.io.\*;**

**public class BubbleSort1{**

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

**String s = args[0];**

**int num = Integer.parseInt(s);**

**int a[] = new int[num];**

**for ( int i = 0; i < num; i++ )**

**a[i] = (int)(Math.random()\*100);**

**for ( int i = 0; i < a.length; i++ )**

**System.out.print( a[i]+" ");**

**System.out.println();**

**bubbleSort(a);**

**for ( int i = 0; i < a.length; i++ )**

**System.out.print(a[i]+" ");**

**System.out.println();**

**}**

**public static void bubbleSort( int b[] ) {**

**for ( int pass = b.length - 1; pass > 0; pass-- )**

**{ for ( int i = 0; i < pass; i++ )**

**if ( b[ i ] > b[ i + 1 ] ) swap(b,i,i + 1); } }**

**public static void swap( int c[], int first, int second ){**

**int hold;**

**hold = c[ first ];**

**c[ first ] = c[ second ];**

**c[ second ] = hold;**

**}**

**}**

4、编写一个应用程序，读入 如07/21/1999格式的日期，打印出如July 21，1999格式的日期。

**public class StringTest {**

**public static void main( String args[] )**

**{ System.out.println("Input F is:");**

**InputStreamReader ir=new InputStreamReader(System.in);**

**BufferedReader in= new BufferedReader(ir);**

**String s=in.readLine();**

**String s1 = s.substring(0,2);**

**int m = Integer.parseInt( s1 );**

**switch(m){**

**case 1 :System.out.print("January "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 2 :System.out.print("February "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 3 :System.out.print("March "+s.substring(3,5)+","+s.substring(6,10)); break;**

**case 4 :System.out.print("April "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 5 :System.out.print("May "+s.substring(3,5)+","+s.substring(6,10)); break;**

**case 6 :System.out.print("June "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 7 :System.out.print("July "+s.substring(3,5)+","+s.substring(6,10)); break;**

**case 8 :System.out.print("August "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 9 :System.out.print("September "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 10 :System.out.print("October "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 11 :System.out.print("November "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**case 12 :System.out.print("December "+s.substring(3,5)+","+s.substring(6,10));**

**break;**

**} } }**

5、编写一个程序。该程序的功能是获取文件C:\testIn.txt的内容和长度，然后将获取的文件长度以及内容保存到文件testOut.txt中，要求文件长度保存在文件testOut.txt的头部。

import java.io.\*;

class FileStreamApp{

public static void main(String Args[]){

File f = new File("testIn.txt ");

int len = f.length();

byte buffer[] = new byte[len+1];

try{FileInputStream fis = new FileInputStream(f);

FileOutputStream fos = new FileOutputStream("testOut.txt");

Buffer[0]=( byte) len;

fis.read(buffer,1,len) ;

fos.write(buffer,0,len+1 );

fis.close();

fos.close();

}catch(Exception e){System.err.println(e.toString()); } } }

6、程序的功能是从键盘输入一字符串，并写入到指定文件**C:\test.txt**中，然后从此文件中读出写入的字符串，并判断此字符串是否为回文。方法palindrome判断字符串s是否是回文，若是回文，返回true，否则返回false。

（1）

import java.io.\*;

public class TestFile

{

static Boolean palindrome (String s){

int len = s. length();

int h = 0, t = len-1;

while (h<=t){

if (s.charAt(h)!=s.charAt(t))

break;

h++;

t--;

}

if (h>t)

return true;

else

return false;

}

public static void main(String args[]) throws Exception{

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

BufferedWriter bw = new BufferedWriter(new FileWriter(“C:\test.txt"));

String s;

while (true) {

System.out.print("请输入一个字符串： ");

System.out.flush();

s=br.readLine();

if (s.length()==0)

break;

bw.write(s);

bw.newLine();

}

bw.close();

if (palindrome(s))

System.out.println(s + “ 是回文” );

else

System.out.println(s + “ 不是回文”);

}

}

7、用四个线程模拟四个售票口，总共出售500张票。要求采用接口实现，四个线程访问同一个变量。

**class SellTickets implements Runnable**

**{ private int tickets=500;**

**public void run()**

**{**

**while(tickets>0)**

**{**

**System.out.println( Thread.currentThread().getName() + " is selling ticket " +tickets--);**

**}**

**}**

**}**

**public class TestTread{**

**public static void main(String[] args)**

**{**

**SellTickets t=new SellTickets();**

**new Thread(t).start();**

**new Thread(t).start();**

**new Thread(t).start();**

**new Thread(t).start();**

**}**

**}**

8、基于Swing实现如下图所示加法运算。



import java.awt.\*;

import javax.swing.\*;

import java.awt.event.\*;

public class Calculator implements ActionListener{

private JTextField oper1 = new JTextField("",6); //用于输入加数1

private JTextField oper2 = new JTextField("",6); //用于输入加数2

private JTextField resultText = new JTextField("",8); //用于显示相加结果

private JLabel lb = new JLabel ("+");

private JButton b = new JButton ("="); //用于确认相加操作

private JFrame f = new JFrame();

double operation1, operation2, result;

String s;

public Calculator(){

**Container c = f.getContentPane();**

c.setLayout(new FlowLayout(FlowLayout.LEFT));

f.addWindowListener( new WindowAdapter() {

public void windowClosing( WindowEvent e )

{ System.exit( 0 ); }

} );

b.addActionListener(this);

c.add(oper1);

c.add(lb);

c.add(oper2);

c.add(b);

c.add(resultText);

f.setSize(300,100);

f.setVisible(true);

}

//下面完成确定按钮的action事件处理

public void actionPerformed(ActionEvent e){

operation1 = Double.parse Double (oper1.getText ());

operation2 = Double.parse Double (oper2.getText ());

result = operation1+operation2;

s = Double.toString(result);

resultText.setText(s);

}

public static void main(String[] args) {

Calculator ca = new Calculator();

}

}