 /** * * */ //package MainPackage. import javax.swing.*. import java.awt.*. import java.awt.geom.*. import java.awt.event.*. import java.util.Calendar. import java.util.GregorianCalendar. /** * This is the main Function of the program. */ public class Clock{ public static void main(String []args){ ClockFrame frame = new ClockFrame(). frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE). frame.setVisible(true). } } /** * This class is used to define the main frame of the clock */ class ClockFrame extends JFrame{ //constructor function public ClockFrame(){ setTitle("小时钟"). setSize(DEFAULT_WIDTH, DEFAULT_HEIGHT). setLocation(DEFAULT_LOC_WIDTH, DEFAULT_LOC_HEIGHT). ClockPanel panel = new ClockPanel(). add(panel). } //variables of the frame private int DEFAULT_LOC_WIDTH = 300. private int DEFAULT_LOC_HEIGHT = 300. private int DEFAULT_WIDTH = 330. private int DEFAULT_HEIGHT = 330. } /** * This class is used to defind the main panel of the clock */ class ClockPanel extends JPanel{ public void paintComponent(Graphics g){ super.paintComponent(g). Graphics2D g2 = (Graphics2D) g. //get the time of the system GregorianCalendar calendar = new GregorianCalendar(). int hour = calendar.get(Calendar.HOUR). int minute = calendar.get(Calendar.MINUTE). int second =

calendar.get(Calendar.SECOND). //draw the clock face Ellipse2D clockFace = new Ellipse2D.Double(). clockFace.setFrameFromCenter(CENTER_X, CENTER_Y, CENTER_X RADIUS, CENTER_Y RADIUS). g2.setColor(Color.BLUE). g2.draw(clockFace). //draw the clock center Ellipse2D clockCenter = new Ellipse2D.Double(). clockCenter.setFrameFromCenter(CENTER_X, CENTER_Y, CENTER_X INNER_RADIUS, CENTER_Y INNER_RADIUS). g2.setColor(Color.RED). g2.fill(clockCenter). //help to get the exact position of the lines double lenX, lenY, posX, posY. //draw the clock second line Line2D clockSecond = new Line2D.Double(). double secondTime = (double) calendar.get(Calendar.SECOND). lenX = SECOND_LEN*Math.sin(2*Math.PI*secondTime/60.0). lenY = SECOND_LEN*Math.cos(2*Math.PI*secondTime/60.0). posX = CENTER_X lenX. posY = CENTER_Y - lenY. clockSecond.setLine(CENTER_X, CENTER_Y, posX, posY). g2.setColor(Color.PINK). g2.draw(clockSecond). //draw the clock minute line Line2D clockMinute = new Line2D.Double(). double minuteTime = (double) calendar.get(Calendar.MINUTE). lenX = MINUTE_LEN*Math.sin(2*Math.PI*(secondTime 60*minuteTime)/3600.0). lenY = MINUTE_LEN*Math.cos(2*Math.PI*(secondTime 60*minuteTime)/3600.0). posX = CENTER_X lenX. posY = CENTER_Y - lenY. clockMinute.setLine(CENTER_X, CENTER_Y, posX, posY). g2.setColor(Color.GREEN). g2.draw(clockMinute). //draw the clock hour line Line2D

clockHour = new Line2D.Double(). double hourTime = (double) calendar.get(Calendar.HOUR). lenX = HOUR_LEN*Math.sin(2*Math.PI*((secondTime 60*minuteTime 3600*hourTime)/43200.0)). lenY = HOUR_LEN*Math.cos(2*Math.PI*((secondTime 60*minuteTime 3600*hourTime)/43200.0)). posX = CENTER_X lenX. posY = CENTER_Y - lenY. clockHour.setLine(CENTER_X, CENTER_Y, posX, posY). g2.setColor(Color.BLUE). g2.draw(clockHour). int delay = 1000. // actionListener ActionListener drawClock. drawClock=new ActionListener(){ public void actionPerformed(ActionEvent evt){ repaint(). } }. //create timer new Timer(delay, drawClock).start(). } //variables of the panel private int HOUR_LEN = 50. private int MINUTE_LEN = 70. private int SECOND_LEN = 90. private int RADIUS = 100. private int INNER_RADIUS = 2. private int CENTER_X = 150. private int CENTER_Y = 150. } 编辑特别推荐: 指点一下：到底该不该去考JAVA认证? Java认证权威问答精华集 100Test 下载频道开通，各类考试题目直接下载。详细请访问 www.100test.com