**《Java语言程序设计》课程实验报告**

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| **专业名称** | 计算机科学与技术 | **年级** | 2017 | **班级** | 计2 |
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| 实验名称 | 类与对象1 |
| 实验 目 的 及 要 求 | **目的**：  了解熟悉Java程序设计的形式，编写完整Java程序。  **要求**：   * 掌握类与对象的概念； * 掌握类的定义； * 掌握对象的创建及其成员的访问 * 会用Java编写完整的程序。 |
| 实 验 环 境 | Microsoft Windows 10 家庭中文版（简体中文）64位  JDK 1.8.0\_201  IntelliJ IDEA Community Edition 2018.3.4 |
| 实 验 内 容 | 请按照要求编写出完整程序   * 第7章编程练习题(P235): 9.1, 9.3-9.6, 9.9 |
| 实 验 步 骤 或 实 验 方 案 | **课后题9.1**  01 **package** sdnu.wry.demo;  02  03 **public class** Rectangle {  04 **private double** width=1;  05 **private double** height=1;  06  07 **Rectangle**(){  08  09 }  10  11 **public double** **getWidth**() {  12 **return** width;  13 }  14  15 **public void** **setWidth**(**double** width) {  16 **this**.width = width;  17 }  18  19 **public double** **getHeight**() {  20 **return** height;  21 }  22  23 **public void** **setHeight**(**double** height) {  24 **this**.height = height;  25 }  26  27 **Rectangle**(**double** width, **double** height){  28 **this**.width = width;  29 **this**.height = height;  30 }  31  32 **public double** **getArea**(){  33 **return** width\*height;  34 }  35  36 **public double** **getPerimeter**(){  37 **return** width\*2+height\*2;  38 }  39 }  01 **package** sdnu.wry.demo;  02 **import** java.math.BigInteger;  03 **import** java.util.\*;  04  05 **public class** Homework{  06 **public static void** **main**(String[] args) {  07 Rectangle r1 = **new** **Rectangle**(4,40);  08 System.out.**println**("矩形长"+r1.**getWidth**()+"高"+r1.**getHeight**()+",面积"+r1.**getArea**()+",周长"+r1.**getPerimeter**());  09 Rectangle r2 = **new** **Rectangle**(3.5,35.9);  10 System.out.**println**("矩形长"+r2.**getWidth**()+"高"+r2.**getHeight**()+",面积"+r2.**getArea**()+",周长"+r2.**getPerimeter**());  11 }  12 }  **课后题9.3**  01 **package** sdnu.wry.demo;  02 **import** java.math.BigInteger;  03 **import** java.text.SimpleDateFormat;  04 **import** java.util.\*;  05  06 **public class** Homework{  07 **public static void** **main**(String[] args) {  08 Date d = **new** **Date**();  09 SimpleDateFormat sdf = **new** **SimpleDateFormat**("yyyy-MM-dd hh:mm:ss");  10 System.out.**println**(sdf.**format**(**new** **Date**(d.**getTime**()+10000)));  11 System.out.**println**(sdf.**format**(**new** **Date**(d.**getTime**()+100000)));  12 System.out.**println**(sdf.**format**(**new** **Date**(d.**getTime**()+1000000)));  13 System.out.**println**(sdf.**format**(**new** **Date**(d.**getTime**()+10000000)));  14 System.out.**println**(sdf.**format**(**new** **Date**(d.**getTime**()+100000000)));  15 System.out.**println**(sdf.**format**(**new** **Date**(d.**getTime**()+1000000000)));  16 *// System.out.println(date);*  17 }  18 }  **课后题9.4**  01 **package** sdnu.wry.demo;  02 **import** java.math.BigInteger;  03 **import** java.text.SimpleDateFormat;  04 **import** java.util.\*;  05  06 **public class** Homework{  07 **public static void** **main**(String[] args) {  08 Random random = **new** **Random**(1000);  09 **for**(**int** i=0;i<50;i++){  10 **if**(i%10==0){  11 System.out.**println**();  12 }  13 System.out.**print**(random.**nextInt**(100)+"\t");  14 }  15 }  16 }  **课后题9.5**  01 **package** sdnu.wry.demo;  02 **import** java.math.BigInteger;  03 **import** java.text.SimpleDateFormat;  04 **import** java.util.\*;  05  06 **public class** Homework{  07 **public static void** **main**(String[] args) {  08 GregorianCalendar gregorianCalendar = **new** **GregorianCalendar**();  09 SimpleDateFormat sdf = **new** **SimpleDateFormat**("yyyy-MM-dd");  10 System.out.**println**(sdf.**format**(gregorianCalendar.**getTime**()));  11 gregorianCalendar.**setTimeInMillis**(1234567898765L);  12 System.out.**println**(sdf.**format**(gregorianCalendar.**getTime**()));  13  14 }  15 }  **课后题9.6**  01 **package** sdnu.wry.demo;  02 **import** java.math.BigInteger;  03 **import** java.text.SimpleDateFormat;  04 **import** java.util.\*;  05  06 **import static** java.lang.Thread.sleep;  07  08 **public class** Homework{  09 **public static void** **main**(String[] args) {  10 StopWatch stopWatch = **new** **StopWatch**();  11 stopWatch.**start**();  12  13 **try** {  14 Thread.**sleep**((**long**)(Math.**random**()\*10000));  15 } **catch** (Exception e) {  16 e.**printStackTrace**();  17 }  18 stopWatch.**stop**();  19 System.out.**println**("流逝"+stopWatch.**getElapsedTime**());  20  21 }  22 }  **课后题9.9**  01 **package** sdnu.wry.demo;  02  03 **public class** test\_ReguUrPolygon {  04 **public static void** **main**(String[] args) {  05 *// TODO Auto-generated method stub*  06 RegularPolygon p1=**new** **RegularPolygon**(6,4);  07 System.out.**println**("The Perimeter of p1 is: "+p1.**getPerimeter**());  08 System.out.**println**("The area of p1 is: "+p1.**getArea**());  09 RegularPolygon p2=**new** **RegularPolygon**(10,4,5.6,7.8);  10 System.out.**println**("The Perimeter of p2 is: "+p2.**getPerimeter**());  11 System.out.**println**("The area of p2 is: "+p2.**getArea**());  12 }  13  14 }  15  16 **class** RegularPolygon{  17 **int** n=3;  18 **double** side=1;  19 **double** x=0;  20 **double** y=0;  21 **RegularPolygon**(){  22  23 }  24 **RegularPolygon**(**int** nn,**int** sside){  25 n=nn;  26 side=sside;  27 x=0;  28 y=0;  29 }  30 **RegularPolygon**(**int** nn,**double** sside,**double** xx,**double** yy){  31 n=nn;  32 side=sside;  33 x=xx;  34 y=yy;  35 }  36 **public void** **setN**(**int** nn) {  37 n=nn;  38 }  39 **public void** **setside**(**int** sside) {  40 side=sside;  41 }  42 **public void** **setx**(**int** xx) {  43 x=xx;  44 }  45 **public void** **sety**(**int** yy) {  46 y=yy;  47 }  48 **double** **getPerimeter**() {  49 **return** n\*side;  50 }  51 **double** **getArea**() {  52 **return** ((n\*side\*side)/(4\*Math.**tan**(3.14/n)));  53 }  54 }  55  56 |
| 调 试 过 程 及 实 验 结  果 | **课后题9.1**     |  |  |  | | --- | --- | --- | | Rectangle | | | | Width:double  Height:double | | | | Rectangle()  Rectangle(a:double,b:double)  getArea():double  getPerimeter():double | | | | Rectangle rec1 | | Width=4  Height=40 |  |  | | --- | | Rectangle rec2 | | Width=3.5  Height=35.9 |   **课后题9.3**    **课后题9.4**    **课后题9.5**    **课后题9.6**     |  |  |  | | --- | --- | --- | | Stopwatch | | | | startime:long  endtime:long | | | | Stopwatch ()  start()  stop()  getElapsedTime():long | | | | stopWatch | |  |   **课后题9.9**     |  | | --- | | RegularPolygon | | N：int  Side:double  X:double  Y:double | | RegularPolygon()  RegularPolygon(nn:int, sside:double)  RegularPolygon(nn:int, sside:double xx:double yy:double)  setN(nn:int)  setside(sside:double)  setx(xx:double)  sety(yy:double)  getPerimeter()  getArea() |  |  | | --- | | RegularPolygon p0 | |  |  |  | | --- | | RegularPolygon p1 | | N=6  Side=4 |  |  | | --- | | RegularPolygon p2 | | N=10  Side=4  X=5.6  Y=7.8 | |
| 总 结 | **课后题7.22**  回溯算法思想  **其余无** |
| 附 录 | Github源码地址：<https://github.com/RuYunW/JavaHomework/tree/master/实验9> |