《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 | 17级 | 班级 | 计1 |
| 学生姓名 | 任志慷 | **指导老师** | 李焱 | 时间 | 5-10 |

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| 实验名称 | 类与对象1 |
| 实  验  目  的  及  要  求 | 目的：  了解熟悉顺序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 | WIN 10 64位  JDK 1.9  Eclipse 2018 |
| 实  验  内  容 | 第9章编程练习题: 9.1, 9.3-9.6, 9.9 |
| 实  验  步  骤  或  实  验  方  案 | **9.1**  **Text.java**  **import** java.util.\*;  **public** **class** test {  **public** **static** **void** main(String[] args) {  Rectangle rectangle1=**new** Rectangle(4,10);  Rectangle rectangle2 = **new** Rectangle(3.5,35.9);  System.***out***.println("rectangle1: width="+rectangle1.getWidth()+" height="+rectangle1.getHeight()  +" area="+rectangle1.getArea()+" perimeter="+rectangle1.getPerimeter());  System.***out***.println("rectangle2: width="+rectangle2.getWidth()+" height="+rectangle2.getHeight()  +" area="+rectangle2.getArea()+" perimeter="+rectangle2.getPerimeter());  }  }  Recangle.java  **public** **class** Rectangle {  **private** **double** width;  **private** **double** height;  **public** Rectangle() {  width=1;  height=1;  }  **public** **double** getWidth() {  **return** width;  }  **public** **double** getHeight() {  **return** height;  }  **public** Rectangle(**double** width,**double** height) {  **this**.width=width;  **this**.height=height;  }  **public** **double** getArea() {  **return** width\*height;  }  **public** **double** getPerimeter() {  **return** 2\*(width+height);  }  }  **9.3**  **package** demo;  **import** java.util.\*;  **public** **class** test {  **public** **static** **void** main(String[] args) {  Date date = **new** Date();  System.***out***.printf("%-25s%-30s\n", "流逝時間", "日期");  **for** (**long** i = 10000; i <= 100000000000l; i = 10 \* i) {  date.setTime(i);  System.***out***.printf("%-20d%-30s\n", date.getTime(), date.toString());  }  }  }  }  **9.4**  **import** java.util.\*;  **public** **class** test {  **public** **static** **void** main(String[] args) {  Random random = **new** Random(1000);  **for** (**int** i = 0; i < 100; i++) {  **if** ((i + 1) % 10 == 0)  System.***out***.println(random.nextInt(100) + " ");  **else**  System.***out***.printf(random.nextInt(100) + " ");  }  }  }  **9.5**  **import** java.util.\*;  **public** **class** test {  **public** **static** **void** main(String[] args) {  GregorianCalendar a = **new** GregorianCalendar();  System.***out***.println("当前时间:" + a.get(GregorianCalendar.***YEAR***) + "年" + a.get(GregorianCalendar.***MONTH***) + "月"  + a.get(GregorianCalendar.***DAY\_OF\_MONTH***) + "日");  a.setTimeInMillis(12345678998765L);  System.***out***.println("当前时间:" + a.get(GregorianCalendar.***YEAR***) + "年" + a.get(GregorianCalendar.***MONTH***) + "月"  + a.get(GregorianCalendar.***DAY\_OF\_MONTH***) + "日");  }  }  **9.6**  **StopWatch.java**  **import** java.util.\*;  **public** **class** StopWatch {  **private** **double** startTime;  **private** **double** endTime;  **public** **void** start() {  Date date = **new** Date();  startTime = date.getTime();  }  **public** **void** stop() {  Date date = **new** Date();  endTime = date.getTime();  }  **public** **double** getElapsedTime() {  **return** endTime - startTime;  }  }  **Text.java**  **import** java.util.\*;  **public** **class** test {  **public** **static** **void** main(String[] args) {  **int**[] array = **new** **int**[100000];  **for** (**int** i = 0; i < 100000; i++)  array[i] = (**int**) (Math.*random*() \* 100 + 1);  StopWatch stopwatch = **new** StopWatch();  stopwatch.start();  *sort*(array);  stopwatch.stop();  System.***out***.println(stopwatch.getElapsedTime());  }  **public** **static** **void** sort(**int**[] array) {  **for** (**int** i = 0; i < array.length; i++) {  **int** temp = i;  **for** (**int** j = i + 1; j < array.length; j++) {  **if** (array[j] > array[i]) {  temp = j;  }  }  **if** (temp != i) {  **int** a = array[i];  array[i] = array[temp];  array[temp] = a;  }  }  }  }  **9.9**  **Text.java**  **import** java.util.\*;  **public** **class** test {  **public** **static** **void** main(String[] args) {  RegularPolygon a = **new** RegularPolygon();  RegularPolygon b = **new** RegularPolygon(6, 4);    RegularPolygon c = **new** RegularPolygon(10, 4, 5.6, 7.8);  System.***out***.println(a.getPerimeter() + " " + a.getArea());  System.***out***.println(b.getPerimeter() + " " + b.getArea());  System.***out***.println(c.getPerimeter() + " " + c.getArea());  }  }  **RegularPolygon.java**  **public** **class** RegularPolygon {  **private** **int** n;  **private** **double** side;  **private** **double** x;  **private** **double** y;  **public** RegularPolygon() {  n = 3;  side = 1;  x = 0;  y = 0;  }  **public** RegularPolygon(**int** n, **double** side) {  **this**.n = n;  **this**.side = side;  **this**.x = 0;  **this**.y = 0;  }  **public** RegularPolygon(**int** n, **double** side, **double** x, **double** y) {  **this**.n = n;  **this**.side = side;  **this**.x = x;  **this**.y = y;  }  **public** **int** getN() {  **return** n;  }  **public** **void** setN(**int** n) {  **this**.n = n;  }  **public** **double** getSide() {  **return** side;  }  **public** **void** setSide(**double** side) {  **this**.side = side;  }  **public** **double** getX() {  **return** x;  }  **public** **void** setX(**double** x) {  **this**.x = x;  }  **public** **double** getY() {  **return** y;  }  **public** **void** setY(**double** y) {  **this**.y = y;  }  **public** **double** getPerimeter() {  **return** n \* side;  }  **public** **double** getArea() {  **return** (n \* side \* side) / (4 \* Math.*tan*(Math.***PI*** / n));  }  } |
| 调  试  过  程  及  实  验  结  果 | **9.1**  **9.3**  **9.4**    **9.5**    **9.6**    **9.9** |
| 总  结 | 爱之深  恨之切 |
| 附  录 | 《JAVA语言程序设计》（基础篇）  P305-307 |