《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 | 3-14 |

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| 实验名称 | 选择结构程序设计 |
| 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if-else结构的定义及应用。 * 掌握switch结构的定义及应用。 * 掌握条件表达式的定义形式。 * 掌握关系及逻辑表达式的定义形式及优先级结合律。 * 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3章编程练习题(P27): 3.4-3.5, 3.9, 3.15, 3.21,3.28 |
| 实  验  步  骤  或  实  验  方  案 | **3.4**  **import** java.util.\*;  **public** **class** 3.4 {  **public** **static** **void** main(String[] args){  Scanner in=**new** Scanner(System.***in***);  **int** number=1+(**int**)(Math.*random*()\*12);  **switch**(number) {  **case** 1:System.***out***.println("January");  **case** 2:System.***out***.println("February");  **case** 3:System.***out***.println("March");  **case** 4:System.***out***.println("April");  **case** 5:System.***out***.println("May");  **case** 6:System.***out***.println("June");  **case** 7:System.***out***.println("July");  **case** 8:System.***out***.println("August");  **case** 9:System.***out***.println("September");  **case** 10:System.***out***.println("Octuber");  **case** 11:System.***out***.println("Novmber");  **case** 12:System.***out***.println("Decmber");  }  in.close();  }  }  **3.5**  **import** java.util.\*;  **public** **class** 3.5 {  **public** **static** **void** main(String[] args){  Scanner in=**new** Scanner(System.***in***);  System.***out***.print("Enter today's day:");  **int** a=in.nextInt();  System.***out***.print("Enter the number of days elapsed since today:");  **int** b=in.nextInt();  List<String>day=**new** ArrayList<>  (Arrays.*asList*("Sunday","Monday","Tusday","Wednesday","Tusday","Friday","Saturday"));  **for**(**int** i=0;i<7;i++) {  **if**(i==a) System.***out***.print("Today is "+day.get(i));  **if**(i==(a+b%7)%7) System.***out***.print(" and the future day is "+day.get(i));  }  in.close();  }  }  **3.9**  **import** java.util.\*;  **public** **class** test {    **public** **static** **int** length(**int** x) {  String y=x+"";  **int** i=y.length();  **return** i;  }    **public** **static** **void** GetSum(**int** x) {  **int** sum=0;  **for**(**int** n=0;n<=8;n++) {  **int** y=(**int**)Math.*pow*(10, n);  sum=sum+((x/y)%10)\*(9-n);  **if**(n==8) {  sum=sum%11;  **if**(sum==10)  System.***out***.print("The ISBN-10 number is "+x+"X");  **else**  System.***out***.print("The ISBN-10 number is "+x+sum);  }  }  }    **public** **static** **void** main(String[] args){  Scanner in=**new** Scanner(System.***in***);  **while**(**true**) {  System.***out***.print("Enter the first 9 digits of an ISBN as integer:");  **int** a=in.nextInt();  **if**(*length*(a)!=9)  System.***out***.print("please retry!\n");  **else**  {*GetSum*(a);**break**;}  }  in.close();  }  }  **3.15**  **import** java.util.\*;  **public** **class** 3.15 {  **public** **static** **void** main(String[] args){    **int** num = (**int**) (Math.*random*() \* 1000);  String strNum = String.*format*("%03d", num);  System.***out***.println("随机数字已生成");    Scanner in = **new** Scanner(System.***in***);  System.***out***.print("请输入三位数：");  **int** usrNum = in.nextInt();  String strUsrNum = String.*format*("%03d", usrNum);    String num000 = strNum.substring(0, 1);  String num00 = strNum.substring(1, 2);  String num0 = strNum.substring(2, 3);    String usrNum000 = strUsrNum.substring(0, 1);  String usrNum00 = strUsrNum.substring(1, 2);  String usrNum0 = strUsrNum.substring(2, 3);    **if** (strNum.equals(strUsrNum)) {  System.***out***.println("答案为：" + strNum);  System.***out***.println("恭喜您，完全正确！奖金为10000美元");  }  **else** **if** ((usrNum000.equals(num00) && usrNum00.equals(num0) && usrNum0.equals(num000)) ||  (usrNum000.equals(num000) && usrNum00.equals(num0) && usrNum0.equals(num00)) ||  (usrNum000.equals(num0) && usrNum00.equals(num00) && usrNum0.equals(num000)) ||  (usrNum000.equals(num0) && usrNum00.equals(num000) && usrNum0.equals(num00)) ||  (usrNum000.equals(num00) && usrNum00.equals(num000) && usrNum0.equals(num0))) {  System.***out***.println("答案为：" + strNum);  System.***out***.println("恭喜您，三个数字正确！奖金为3000美元");  }  **else** **if** (usrNum000.equals(num000) ||  usrNum000.equals(num00) ||  usrNum000.equals(num0) ||  usrNum00.equals(num000) ||  usrNum00.equals(num00) ||  usrNum00.equals(num0) ||  usrNum0.equals(num000) ||  usrNum0.equals(num00) ||  usrNum0.equals(num0)) {  System.***out***.println("答案为：" + strNum);  System.***out***.println("恭喜您，包含正确数字！奖金为1000美元");  }  **else** {  System.***out***.println("答案为：" + strNum);  System.***out***.println("很遗憾，没有回答正确");  in.close();  }  }  }  **3.21**  **import** java.util.\*;  **public** **class** 3.21 {  **public** **static** **void** main(String[] args){  Scanner in = **new** Scanner(System.***in***);  System.***out***.print("Enter year: ");  **int** a=in.nextInt();  **int** j=a/100;  **int** k=a%100;  System.***out***.print("Enter month 1-12 : ");  **int** m=in.nextInt();  **if**(m==1||m==2) {m=m+12;k=k-1;}  System.***out***.print("Enter the day of the month 1-31 : ");  **int** q=in.nextInt();  **int** h=(q+26\*(m+1)/10+k+k/4+j/4+5\*j)%7;  List<String>day=**new**ArrayList<>(Arrays.*asList*("Saturday","Sunday","Monday","Tusday","Wednesday","Tusday","Friday","Saturday"));  System.***out***.print("Day of the week is "+day.get(h));  in.close();  }  **3.28**  **import** java.util.\*;  **class** Point{  **private** **double** x;  **private** **double** y;  **public** Point(**double** x,**double** y){  **this**.x=x;  **this**.y=y;  }  **public** **double** getX(){  **return** x;  }  **public** **double** getY(){  **return** y;  }  }  **class** judge{    }  **public** **class** test {  **public** **static** **void** main(String[] args){  Scanner in = **new** Scanner(System.***in***);  **while**(**true**) {  System.***out***.print("please int point r1 and width & height:");  Point r1=**new** Point(in.nextDouble(),in.nextDouble());  **double** w1=in.nextDouble();  **double** h1=in.nextDouble();  System.***out***.print("please int point r2 and width & heigth:");  Point r2=**new** Point(in.nextDouble(),in.nextDouble());  **double** w2=in.nextDouble();  **double** h2=in.nextDouble();  **double** x=Math.*abs*(r1.getX()-r2.getX());  **double** y=Math.*abs*(r1.getY()-r2.getY());  **double** w=Math.*abs*(w1+w2);  **double** h=Math.*abs*(h1+h2);  **if**(((w>x||w==x)||(h>y||h==y))&&!(w==x&&h==y)&&!((r1.getX()==r2.getX()&&r1.getY()==r2.getY()&&w1==w2&&h1==h2)))  System.***out***.print("r2 is inside r1\n");    **else** **if**(((w<x||w==x)||(h<y||h==y))&&!(w<x&&h<y)||((r1.getX()==r2.getX()&&r1.getY()==r2.getY()&&w1==w2&&h1==h2)))  System.***out***.print("r2 overlaps r1\n");  **else**  System.***out***.print("r2 does not overlap r1\n");  }  }  } |
| 调  试  过  程  及  实  验  结  果 | **3.4**  **3.5**  **3.9**  **3.15**    **3.21**  **3.28** |
| 总  结 | 死亡如风  常伴吾身 |
| 附  录 | 《JAVA语言程序设计》（基础篇）  P93-98 |