

**Java语言程序设计**

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| **专业年级** | **计算机科学与技术2019**级 |
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二○二一年四月

中国 常州

**主要功能**

**1. 获取当前中奖号码**

**2. 自定义当前中奖号码**

**3. 随机重置当前中奖号码**

**4. 中奖号码不变,随机产生用户选择进行指定次数游戏的收益**

**5. 中奖号码不变,随机产生用户选择至第一次获得三等奖的花费**

**6. 在控制台进行交互游戏**

**完整代码**

***import* java.util.\*;  
  
*public class* test {  
 *public static void* main(String[] args) {  
 *// 获取中奖号码* System.out.println("获取中奖号码为:");  
 System.out.println(Arrays.toString(lottery.getAns()));  
 System.out.println("========================");  
  
 *// 自定义中奖号码* System.out.println("自定义中奖号码:");  
 lottery.setAns(*new int*[]{1, 2, 3, 4, 5, 6, 7});  
 System.out.println(Arrays.toString(lottery.getAns()));  
 System.out.println("========================");  
  
 *// 重置中奖号码* lottery.reset();  
 System.out.println("随机重置中奖号码:");  
 System.out.println(Arrays.toString(lottery.getAns()));  
 System.out.println("========================");  
  
 *// 游戏 1000 次收益* System.out.println("开始模拟1000次彩票购买...");  
 user user1 = *new* user();  
 user1.play(1000);  
 System.out.println("========================");  
  
 *// 至三等奖的花费  
 int* money = user1.money\_3();  
 System.out.println(String.format("到第一次获得三等奖共花费 %d 元",money));  
 System.out.println("========================");  
  
  
 *// 控制台交互游戏* System.out.println("控制台交互游戏开始:");  
 System.out.println("重置中奖号码...");  
 lottery.reset();  
 System.out.println("请输入您的号码选择:");  
 System.out.println("(1-49 七位不重复数字)");  
 user.playInConsole();  
 System.out.println("中奖号码为:");  
 System.out.println(Arrays.toString(lottery.getAns()));  
  
  
  
*// // 游戏一次  
// System.out.println("用户输入进行一次游戏:");  
// System.out.println("您选对了" + lottery.bonus(new int[]{3, 6, 7, 9, 14, 26, 36}) + "个数字");* }  
}  
  
*class* user {  
 *private int* money = 0; *// 用户收益  
 private int*[] times = *new int*[6]; *// 用户中奖次数  
  
 // 用户游戏  
 public void* play(*int* time){  
 *this*.money = 0;  
 System.out.println("中奖号码为:" + Arrays.toString(lottery.getAns()));  
 *for* (*int* i = 0; i < time; i++) {  
 *int*[] u\_choice = choice(7);  
 *// 用户获奖等级  
 int* grade = lottery.bonus(u\_choice);  
 *switch* (grade) {  
 *case* 2: { money += 5; times[5]++; *break*; }  
 *case* 3: { money += 10; times[4]++; *break*; }  
 *case* 4: { money += 100; times[3]++; *break*; }  
 *case* 5: { money += 1000; times[2]++; *break*; }  
 *case* 6: { money += 200000; times[1]++; *break*; }  
 *case* 7: { money += 5000000; times[0]++; *break*; }  
 }  
 }  
 System.out.println(String.format("中奖次数:一等奖 %d 次, 二等奖 %d 次, 三等奖 %d 次, 四等奖 %d 次, " +  
 "五等奖 %d 次, 六等奖 %d 次", times[0],times[1],times[2],times[3],times[4],times[5]));  
 System.out.println(String.format("用户购买 %d 张彩票后共中奖:%d 元",time,*this*.money));  
 }  
 *// 产生用户选择  
 public int*[] choice(*int* num) {  
 *// 借助java.util.Random类来产生一个随机数发生器 使用默认时间种子* Random r = *new* Random();  
 *int*[] ans = *new int*[num];  
 *for* (*int* i = 0; i < num; ++i) {  
 *int* use = (*int*) (r.nextFloat() \* 50);  
 *while* (judge(use,ans))  
 use = (*int*) (r.nextFloat() \* 50);  
 ans[i] = use;  
 }  
 *return* ans;  
 }  
 *// 判断随机数是否在列表中,即中奖号码 不存在重复数字  
 public boolean* judge(*int* a, *int*[] b){  
 *for*(*int* i: b){  
 *if* (a == i)  
 *return true*;  
 }  
 *return false*;  
 }  
 *// 获得三等奖的花费  
 public int* money\_3() {  
 *int* count = 1;  
 *int*[] u\_choice = choice(7);  
 *while* (lottery.bonus(u\_choice) != 5){  
 u\_choice = choice(7);  
 count++;  
 }  
 *return* count \* 5;  
 }  
 *// 控制台交互游戏  
 public static void* playInConsole() {  
 Scanner scanner = *new* Scanner(System.in);  
 *int*[] u\_choice = *new int*[7];  
 *for* (*int* i = 0; i < 7;i++)  
 u\_choice[i] = scanner.nextInt();  
 *int* grade = lottery.bonus(u\_choice);  
 String gra = *null*;  
 *switch* (grade) {  
 *case* 2: { gra = "六"; *break*; }  
 *case* 3: { gra = "五"; *break*; }  
 *case* 4: { gra = "四"; *break*; }  
 *case* 5: { gra = "三"; *break*; }  
 *case* 6: { gra = "二"; *break*; }  
 *case* 7: { gra = "一"; *break*; }  
 *default*:  
 System.out.println("很遗憾,您未能获奖!");  
 }  
 *if* (gra!=*null*)  
 System.out.println("恭喜您获得了"+gra+"等奖!");  
 }  
}  
  
*class* lottery {  
 *private static int*[] ans = *new int*[7]; *// 存放中奖号码  
 // 初始化中奖号码  
 static* {  
 lottery.ans = numbers(7);  
 }  
 *// 获取中奖号码  
 public static int*[] getAns() {  
 *return* ans;  
 }  
 *// 自定义中奖号码  
 public static void* setAns(*int*[] ans) {  
 lottery.ans = ans;  
 }  
 *// 返回用户 中奖的等级  
 public static int* bonus(*int*[] user\_choice) {  
 *int* count = 0;  
 *for*(*int* a:lottery.ans){  
 *for*(*int* b:user\_choice){  
 *if* (a == b)  
 count++;  
 }  
 }  
 *return* count;  
 }  
 *// 重置中奖号码  
 public static void* reset() {  
 lottery.ans = numbers(7);  
 }  
 *// 产生一组随意数  
 public static int*[] numbers(*int* num) {  
 *// 借助java.util.Random类来产生一个随机数发生器 使用默认时间种子* Random r = *new* Random();  
 *int*[] ans = *new int*[num];  
 *for* (*int* i = 0; i < num; ++i) {  
 *int* use = (*int*) (r.nextFloat() \* 50);  
 *while* (judge(use,ans))  
 use = (*int*) (r.nextFloat() \* 50);  
 ans[i] = use;  
 }  
 *return* ans;  
 }  
 *// 判断随机数是否已经存在,即中奖号码 不存在重复数字  
 public static boolean* judge(*int* a, *int*[] b){  
 *for*(*int* i: b){  
 *if* (a == i)  
 *return true*;  
 }  
 *return false*;}  
}**

**运行结果**

