JAVA习题4

学号: 1517440121 姓名: 黄春翔

1．编写程序实现

函数

的计算，x值由键盘输入，函数运算结果输出在屏幕上。

import java.text.MessageFormat;

import java.util.Scanner;

/\*\*

\* Created by enihsyou on 16/3/30.

\*/

public class Piecewise {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

if (scanner.hasNextDouble()) {

double tmp = scanner.nextDouble();

if (tmp >= 10) {

tmp = 3 \* tmp - 11;

} else if (tmp >= 1) {

tmp = 2 \* tmp - 1;

}

System.out.println(MessageFormat.format("{0,number}", tmp));

}

}

}

2． 编写程序，输入一个三角形的三条边，若能构成一个直角三角形，则输出该三角形面积，反之输出相应提示信息。

import java.util.Scanner;

/\*\*

\* Created by enihsyou on 16/3/30.

\*/

public class Trangle {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

double num[] = new double[3];

int i = 0;

while (scanner.hasNextDouble()) {

if (i == 2) {

break;

}

num[i] = scanner.nextDouble();

i++;

}

if (num[0] \* num[0] + num[1] \* num[1] > num[2] \* num[2]) {

System.out.println(num[0] \* num[1] / 2);

} else if (

num[2] \* num[2] + num[1] \* num[1] > num[0] \* num[0]) {

System.out.println(num[2] \* num[1] / 2);

} else if (

num[2] \* num[2] + num[0] \* num[0] > num[1] \* num[1]) {

System.out.println(num[0] \* num[2] / 2);

} else {

System.out.println("不是直角三角形");

}

}

}

3．编写程序完成手机比价，例如，输入一个某一品牌手机，输入10大电商对该品牌手机的销售价格，找出最低价，并输出销售的网站。

import java.text.MessageFormat;

import java.util.IdentityHashMap;

import java.util.Scanner;

/\*\*

\* Created by enihsyou on 16/3/30.

\*/

public class Compare {

static void in(Scanner scanner, double price[], int i) {

try {

price[i] = Double.parseDouble(scanner.next());

} catch (Exception e) {

System.out.println("需要数字:");

in(scanner, price, i);

}

}

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

double price[] = new double[10];

String names[] = new String[10];

System.out.println("输入商品名:");

String name = scanner.next();

int i = 0;

while (true) {

if (i == 10) {

break;

}

System.out.println("输入电商名:");

names[i] = scanner.next();

System.out.println("输入该电商价格:");

in(scanner, price, i);

i++;

}

double minNum = price[0];

i = 0;

for (int j = 0; j < 10; j++) {

if (price[j] < minNum) {

minNum = price[j];

i = j;

}

}

System.out.println(MessageFormat.format("{0}的最低价格在{1} {2,number}", name, names[i], price[i]));

}

}

4、编程，分3类红包，第1类 一般红包，就是规定金额，规定个数，例如：100元分5个红包，那每个红包就是20元，这个20元是通过程序计算出来的；第2类是 拼手气红包，就是规定金额，规定个数，但是每个红包的金额是不同的，通过应用随机函数计算出每个红包的金额（100元分5个红包，第1个红包29元，第2个红包13元，第3个红包34元，第4个红包10元，第5个红包 14元）；第3类 口令红包，规定口令，当打开红包时需要输入口令，口令正确就可以打开红包了。

/\*\*

\* Created by enihsyou on 16/3/30.

\*/

import java.util.Random;

import java.util.Scanner;

import java.text.MessageFormat;

import java.text.DecimalFormat;

public class Hongbao2 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

DecimalFormat decimalFormat = new DecimalFormat("#.##");

System.out.println("输入1: 一般红包\n输入2: 拼手气红包\n输入3: 口令红包");

switch (scanner.nextInt()) {

case 1:

double sumNumber;

int number;

double averageNumber;

System.out.println("多少钱: ");

sumNumber = scanner.nextDouble();

System.out.println("多少个红包: ");

number = scanner.nextInt();

averageNumber = sumNumber / number;

System.out.println(MessageFormat.format("红包总共{0}元", sumNumber));

System.out.println(MessageFormat.format("每个红包: {0}元", decimalFormat.format(averageNumber)));

break;

case 2:

System.out.println("多少钱: ");

int total = (int) (scanner.nextDouble() \* 100); //总数

System.out.println("多少个红包: ");

number = scanner.nextInt(); //个数

int money[] = new int[number];

Random random = new Random();

System.out.println();

for (int i = 0; i < total; i++) {

int choice = (int)(10000000\*random.nextFloat()) % number;

random.setSeed(random.nextLong());

money[choice] += 1;

}

for (int i = 0; i < number; i++) {

System.out.println(MessageFormat.format("红包{0}: {1}元", i + 1, decimalFormat.format(money[i] / 100.0)));

}

break;

case 3:

System.out.println("输入口令: ");

String cipher = scanner.next();

System.out.println("多少钱: ");

sumNumber = scanner.nextDouble();

System.out.println("输入口令: ");

if (scanner.next().equals(cipher)) {

System.out.println(MessageFormat.format("口令正确！红包: {0}元", sumNumber));

} else {

System.out.println("口令错误！");

}

break;

}

}

}

5、输出满足“用3除余2，用5除余3，用7除余2”的所有3位数。

/\*\*

\* Created by enihsyou on 16/4/4.

\*/

public class Number {

public static void main(String[] args) {

for (int i = 100; i < 1000; i++)

if (i % 3 == 2 && i % 5 == 3 && i % 7 == 2)

System.out.println(i);

}

}

6、输入任一正整数，分解质因数并输出。如输入8则输出2\*2\*2，输入12则输出2\*2\*3

import java.util.Scanner;

/\*\*

\* Created by enihsyou on 16/4/4.

\*/

public class Factor {

public static void main(String[] args) {

int i = 2;

Scanner scanner = new Scanner(System.in);

if (scanner.hasNextInt()) {

double next = scanner.nextInt();

String string;

while (i <= next) {

double mod = next / i;

if (mod - (int) mod != 0) {

i++;

continue;

}

System.out.print(i);

next = mod;

if (next != 1){

System.out.print("\*");

}

}

}

}

}

7、输出

＊＊＊＊＊＊＊＊＊＊

＊＊＊＊＊＊＊＊＊＊

＊＊＊＊＊＊＊＊＊＊

＊＊＊＊＊＊＊＊＊＊

＊＊＊＊＊＊＊＊＊＊

/\*\*

\* Created by enihsyou on 16/4/4.

\*/

public class Out {

public static void main(String[] args) {

System.out.println(" ＊＊＊＊＊＊＊＊＊＊");

System.out.println("\t＊＊＊＊＊＊＊＊＊＊");

System.out.println("\t ＊＊＊＊＊＊＊＊＊＊");

System.out.println("\t ＊＊＊＊＊＊＊＊＊＊");

System.out.println(" ＊＊＊＊＊＊＊＊＊＊");

}

}

8.有100匹马，驮100担货物，大马驮3担，中马驮2担，小马驮1担，请问大，中，小马各需要多少，有多少解决方案。

import java.text.MessageFormat;

/\*\*

\* Created by enihsyou on 16/4/4.

\*/

public class Horse {

public static void main(String[] args) {

int count = 0;

for (int small = 0; small <= 100; small++) {

for (int mid = 0; mid <= 100 - small; mid++) {

for (int big = 0; big <= 100 - small - mid; big++) {

if (small + 2 \* mid + 3 \* big == 100) {

count++;

System.out.println(MessageFormat.format(

"大马{0}匹，中马{1}匹，小马{2}匹", big, mid, small));

}

}

}

}

System.out.println(MessageFormat.format("总共{0}种方案", count));

}

}

9.已经2014年1月1日为星期三，编程实现给定2014年某一个日期，由计算机给出星期几。

import java.util.Scanner;

/\*\*

\* Created by enihsyou on 16/4/4.

\*/

public class Calender {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("正确输入日期 如9月21日 输入0921");

String string = scanner.next();

int day = Integer.parseInt(string.substring(2));

int month = Integer.parseInt((string.substring(0, 2))) - 1;

int count = 0;

while (month > 0) {

switch (month) {

case 12:

case 10:

case 8:

case 7:

case 5:

case 3:

case 1: {

count += 31;

break;

}

case 11:

case 9:

case 6:

case 4: {

count += 30;

break;

}

case 2: {

count += 28;

break;

}

}

month--;

}

count += day + 2;

switch ((count) % 7) {

case 0: {

System.out.println("星期日");

break;

}

case 1: {

System.out.println("星期一");

break;

}

case 2: {

System.out.println("星期二");

break;

}

case 3: {

System.out.println("星期三");

break;

}

case 4: {

System.out.println("星期四");

break;

}

case 5: {

System.out.println("星期五");

break;

}

case 6: {

System.out.println("星期六");

break;

}

}

}

}