Java Homework (Chapter 4)

4.12

**import** java.util.Scanner;  
**public class** hex2Binary {  
 **public static void** main(String[] Args){  
 Scanner input = **new** Scanner(System.***in***);  
 System.***out***.print(**"Enter a hex digit: "**);  
 String hexString = (input.nextLine()).toUpperCase();  
 *//只能转小于8位的* **if** (hexString.length() >= 8) {  
 System.***out***.println(**"You must enter exactly a number length less than 8"**);  
 System.*exit*(1);  
 }  
 *//16转10 保存至val* String digits = **"0123456789ABCDEF"**;  
 **int** val = 0;  
 **for** (**int** i = 0; i < hexString.length(); i++){  
 **char** temStr = hexString.charAt(i);  
 **int** temNum = digits.indexOf(temStr);  
 val = 16 \* val + temNum;  
 }  
 *//10转2* **int** temO;  
 String outer = **""**;  
 **while**(val != 0){  
 temO = val % 2;  
 val = val / 2;  
 outer = temO + outer;  
 }  
 System.***out***.println(**"The Binary Value is "** + outer);  
 }  
}

4.19

**import** java.util.Scanner;  
**public class** checkISBN10asString {  
 **public static void** main(String[] Args) {  
 Scanner input = **new** Scanner(System.***in***);  
 System.***out***.print(**"Enter the first 9 digits of an ISBN as integer: "**);  
 String inISBN = input.nextLine();  
 *//get d1\_d9 and calculate the sum* **int** sum = 0;  
 **for** (**int** i = 0; i < 9; i++)  
 sum = sum + (inISBN.charAt(i) - 48) \* (i+1);  
 *//System.out.println(i + " " + sum + " " + (inISBN.charAt(i) - 48));  
 //calculate d10 and output the 10 ISBN* **if** (sum % 11 ==10)  
 System.***out***.print(**"The ISBN-10 number is "** + inISBN + **"X"**);  
 **else** System.***out***.print(**"The ISBN-10 number is "** + inISBN + (sum % 11));  
 }  
}

4.21

**import** java.util.Scanner;  
**public class** checkSSN {  
 **public static void** main(String[] Args){  
 Scanner input = **new** Scanner(System.***in***);  
 System.***out***.print(**"Enter a SSN: "**);  
 String SSN = input.nextLine();  
 **if** (SSN.length() != 11 || SSN.charAt(3) != **'-'** || SSN.charAt(6) != **'-'**){  
 System.***out***.print(SSN + **" is an invalid social security number"**);  
 System.*exit*(1);  
 }  
 **for**(**int** i =0; i < 11; i++){  
 **if**(i == 3 || i == 6) **continue**;  
 **if**(Character.*isDigit*(SSN.charAt(i))){  
 System.***out***.print(SSN + **" is an invalid social security number"**);  
 System.*exit*(1);  
 }  
 }  
 System.***out***.print(SSN + **" is an valid social security number"**);  
 }  
}

4.24

**import** java.util.Scanner;  
**public class** orderThreeCities {  
 **public static void** main(String[] Args) {  
 Scanner input = **new** Scanner(System.***in***);  
 System.***out***.print(**"Enter the first city: "**);  
 String firstCity = input.nextLine();  
 System.***out***.print(**"Enter the second city: "**);  
 String secondCity = input.nextLine();  
 System.***out***.print(**"Enter the third city: "**);  
 String thirdCity = input.nextLine();  
 **if** (thirdCity.compareToIgnoreCase(secondCity) < 0) {  
 String tem0 = thirdCity;  
 thirdCity = secondCity;  
 secondCity = tem0;  
 **if** (secondCity.compareToIgnoreCase(firstCity) < 0) {  
 tem0 = secondCity;  
 secondCity = firstCity;  
 firstCity = tem0;  
 **if** (thirdCity.compareToIgnoreCase(secondCity) < 0){  
 tem0 = thirdCity;  
 thirdCity = secondCity;  
 secondCity = tem0;  
 }  
 }  
 }  
 **else** {  
 **if** (secondCity.compareToIgnoreCase(firstCity) < 0) {  
 String temO = secondCity;  
 secondCity = firstCity;  
 firstCity = temO;  
 **if** (thirdCity.compareToIgnoreCase(secondCity) < 0){  
 String tem0 = thirdCity;  
 thirdCity = secondCity;  
 secondCity = tem0;  
 }  
 }  
 }  
 System.***out***.print(**"The three cities in alphabetical order are "** + firstCity + **" "** + secondCity + **" "** + thirdCity);  
 }  
}