CS151 Spring 2020

Project 4

Writing Classes and Invoking Methods, Modulo Operator, Integer Division

Write an application with two classes.

Class NumberUtils has instance variable int value and it has methods:

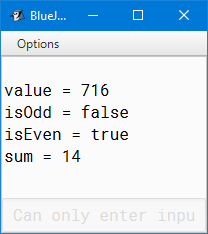
* public NumberUtils() //Constructor – set value to random number from 100 to 999
* public boolean isOdd() //Returns true if value is odd and returns false otherwise.
* public boolean isEven() //Returns true if value is even otherwise returns false.
* public int getDigitsSum() //Returns sum of all digits of the instance variable value.
* private int getLastDigit(int n) //Returns last digit of number n.
* public void testAll() //Invokes isOdd, isEven, getDigitsSum and reports   
   //results with description for each invoked method.

Class TestUtils has main method. In the main method instantiate an object from class NumberUtils and invoke testAll method.

In isEven implementation use isOdd.  
In getDigitsSum implementation use getLastDigit.

Follow instruction for the previous projects.

Possible output:



Number 716 is random. You might get different number.

Class templates:

public class NumberUtils

{

// instance variable

private int value;

// Constructor for objects of class NumberUtils

public NumberUtils()

{

// value = random from 100 to 999

}

public boolean isOdd()

{

// return true if value is odd

}

public boolean isEven()

{

// return true if value is even (use idOdd)

}

private int getLastDigit(int n)

{

// return last digit of n (use “%” operator)

}

private int stripLastDigit(int n)

{

// return n without last digit (use “/” operator–integer division)

}

public int getDigitsSum()

{

// return sum of all digits (use getLastDigit and stripLastDigit)

}

public void testAll()

{

// call isEven, isOdd, getDigitsSum and display result

}

}

public class TestNumberUtils

{

public static void main(String[] args)

{

// create an instance of NumberUtils and invoke testAll method

}

}