

CSCD210

Methods Lab

The methods you write for this lab must meet the following criteria:

public static void lightOrHeavy(int theNum, Scanner kb)

The lightOrHeavy method calculates the **average of the digits** of the number passed in. Take the sum of the digits and divide by the total number of digits in the number passed in. Next prompt the user for a second number. Take the sum of the digits and divide by the total number of digits in the number entered. If the average of the digits of the number passed in is greater than the average of the second number, then the number is heavy. Otherwise the number is light.

Parameters:

theNum - Representing a positive number > 0

kb - Representing the Scanner to the keyboard

Throws:

IllegalArgumentException - if theNum is < 1

IllegalArgumentException - if the Scanner is null

public static int readPosNum(Scanner kb)

The readPosNum method prompts the user for a positive number that is greater than 0. The method ensures the number is greater than 0 by continually prompting until a number greater than 0 is entered.

Parameters:

kb - Representing the Scanner to the keyboard

Returns:

int Representing the positive number

Throws:

IllegalArgumentException - if the Scanner is null

public static int menu(Scanner kb)

The menu method prompts the user for a menu choice. This method ensures that the entered choice is within the range of 1 to 6 inclusive.

Menu choices are:

- 1) Enter a new number
- 2) Print the number of even/odd/zeros
- 3) Print if the number is light or heavy
- 4) Print the value of E
- 5) Print the number in reverse order
- 6) Quit

Parameters:

kb - Representing the Scanner to the keyboard

Returns:

int representing the menu choice, must ensure the number is between 1 and 6 inclusive

Throws:

IllegalArgumentException - if the Scanner is null

public static void printE(int theNum)

The method prints the value of E considering the passed in number is the term. The value of e is the value of $(1 + 1/n)^n$

Parameters:

theNum - Representing the term to calculate E

Throws:

IllegalArgumentException - if the theNum passed in is < 1

public static void printReverse(int theNum)

The method prints number passed in in reverse order.

Parameters:

theNum - To print the digits in reverse order

Throws:

`IllegalArgumentException` - if the theNum passed in is < 1

public static void oddEvenZero(int theNum)

The oddEvenZero method reports the number of even/odd/zeros in the number.

Parameters:

theNum - Representing a positive number > 0

Throws:

[`IllegalArgumentException`](#) - if the number is < 1