Problem Set 2 Exercise #09: Count numbers not divisible by 2 divisors

Reference: Lecture 4 notes

Learning objective: Repetition statements

Estimated completion time: 20 minutes

Problem statement:

Write a program **PS2_Ex09_CountNumbers.java** to read in a pair of distinct positive integers. Let's call them *divisor1* and *divisor2*. Your program next reads in another pair of distinct positive integers *limit1* and *limit2*, where *limit1* < *limit2*. Finally your program counts the number of integers from *limit1* to *limit2* (both inclusive) which are not divisible by *divisor1* and also not divisible by *divisor2*.

For example, if *divisor1* = 7, *divisor2* = 3, *limit1* = 10 and *limit2* = 30, then the answer is 12 as there are 12 integers in the range [10, 30] which are not divisible by both 3 and 7. They are 10, 11, 13, 16, 17, 19, 20, 22, 23, 25, 26 and 29.

Your program should contain a method

```
int countNumbers(int div1, int div2, int lim1, int lim2)
```

that takes in the 4 input values and returns the answer.

Sample run #1:

```
Enter two divisors: 7 3
Enter lower and upper limits: 10 30
Answer = 12
```

Sample run #2:

```
Enter two divisors: 5 8
Enter lower and upper limits: 151 180
Answer = 21
```