Exercises 2 – String Calculator Kata

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Exercise 2.1 – The kata

1. Create a new IntelliJ project named **StringCalculator** and follow the setup steps in the previous exercise.

   Rules for the following steps:
   - **Try not to read ahead.**
   - **Do one task at a time. The trick is to learn to work incrementally.**
   - **Make sure you only test for correct inputs. There is no need to test for invalid inputs for this kata**

2. Create a simple String calculator class with a method **int add(string numbers)**
   a. The method can take 0, 1 or 2 numbers, and will return their sum (for an empty string it will return 0) for example **""** or **"1"** or **"1,2"**
   b. Start with the simplest test case of an empty string and move to 1 and two numbers
   c. Remember to solve things as simply as possible so that you force yourself to write tests you did not think about
   d. Remember to refactor after each passing test

3. Allow the Add method to handle an unknown amount of numbers

4. Allow the Add method to handle new lines between numbers (instead of commas).
   a. the following input is ok: **"1\n2,3"** (will equal 6)
   b. the following input is NOT ok: **"1,\n"** (not need to prove it - just clarifying)

   If you have time

5. Support different delimiters
   a. to change a delimiter, the beginning of the string will contain a separate line that looks like this: **"//[delimiter]\n[numbers…]"** for example **"//;\n1;2"** should return **three** where the default delimiter is **';'** .
   b. the first line is optional. all existing scenarios should still be supported

6. Calling Add with a negative number will throw an exception "negatives not allowed" - and the negative that was passed. if there are multiple negatives, show all of them in the exception message

Exercise 2.2 – More information

1. The **String Calculator Kata** is a famous TDD exercise created by Roy Osherove and can be found at http://osherove.com/tdd-kata-1/

2. The interesting with this exercise is that it has been recorded by many hundreds of developers online and if you for example search on YouTube for "**string calculator kata java**" you will find many recordings on how to solve this exercise using TDD.

   Watch some of the videos!

3. If you Google for "**string calculator kata**" you will find the solution for this Kata for almost every language, try it!

4. Visit http://www.peterprovost.org/blog/2012/05/02/kata-the-only-way-to-learn-tdd/ and read more about Katas and how they can help you learn and improve your TDD skills.

Exercise 2.3 – If you have time

Many other TDD katas exists, try one of the ones found here: https://github.com/garora/TDD-Katas