



## .NET Coding Assessment

Motosoft GmbH

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# 1 CODING EXERCISES

## 1.1 Exercise 1: "Word processing"

You are responsible for the implementation of a document processing system and you want to find out some statistics about a document.

Please implement a software class **CountIt** that is capable to count words in a DOCUMENT. The document is basically a string that needs to be parsed.

The following remarks below apply:

- Numbers are not processed.
- Next to the total number of words the number of occurrences of each word is also calculated.
- The total number of occurrences next to the word must be shown on screen on by one (in lowercase).
- Counting the occurrences per word is case insensitive (so Matchbox, matchbox, and MATCHBOX are all the same word).
- When printing the occurrences, the words must be in alphabetical order.
- You cannot use a built in .NET sort routine, so write your own sorting routine, it does not have to be the fastest sort routine as long as it is reliable.
- Since the CIA and RUSSIA are monitoring every move of what you are doing the list of words must also be returned by your CountIt in a scrambled form. This means the letters must be in reversed order and every EVEN letter in the word must be capitalized. Mind you the word scrambling routine which you write can be used throughout the system, and might be replaced later.
- When the processed data is returned, it must be shown in a console application for now.
- The code must be production code, use everything you would use in production. You are also allowed to use third party components if required.
- The document can be provided as a string to your CountIt class, so no file IO is necessary.
- All classes can be in one console application.
- Everything must be done TDD. Use SOLID and full object oriented programming.
- Any questions or something not clear? Feel free to ask ...

## 1.2 Example

If your document is:

“The big brown fox number 4 jumped over the lazy dog. THE BIG BROWN FOX JUMPED OVER THE LAZY DOG. The Big Brown Fox 123.”

Your console output would be:

Number of words: 23

big 3

brown 3

dog 2

fox 3

jumped 2

lazy 2

number 1

over 2

the 5

gIb

nWoRb

gOd

xOf

dEpMuJ

yZaL

rEbMuN

rEvO

eHt