**Lab 2 - Greatest Common Divisor**

The project will contain the following:

(i) The implementation of 3 different algorithms for computing the greatest common divisor of 2

natural numbers. One of the algorithms should work for numbers of arbitrary size! You may use a

library for large numbers from the Internet.

(ii) A running-time analysis for each of these algorithms for a set of at least 10 inputs. For each such

input use two numbers with the same number of digits. For each algorithm, draw a diagram with

two axes, one representing the number of digits and the other one the corresponding running-times

(in microseconds!).

**Functions:**

BigInteger euclidAlgorithm(BigInteger firstNumber, BigInteger secondNumber):

- computes the GCD with euclid algorithm

BigInteger euclidRecursiveAlgorithm(BigInteger firstNumber, BigInteger secondNumber):

- computes the GCD with euclid algorithm recursively

BigInteger inefficientAlgorithm(BigInteger firstNumber, BigInteger secondNumber):

- computes the GCD using a very ineffiient method