## Assignment 1 (mandatory) Sorting Shakespeare's complete works

Jacob Trier Frederiksen (JTF, teacher) & Anders Kalhauge (AKA, assisting)

Algorithms & Data Structures, Spring 2019

We would like to sort Shakespeares complete works, sorted by word. Meaning that "to be or not to be, that is the question" would be sorted as: "be be is not or question that the to to".

You'll find the complete works in the <u>GitHub course repository under Weeklies</u>. You will work in groups of three to create a Java program, that can:

- Read any text file (as the above, Shakespeare-one, into an array or ArrayList)
  - All words should be lower case
  - No punktuations strip commas, full stops, etc.
- Sort the array using different sorting algorithms:
  - Selection Sort
  - Insertion Sort
  - Merge sort
- Be extendable to application of other sorting algorithms in the future.
- Measure time consumption for each algorithm and compare them, and discuss the results in a one-page summary.

The solution accompanied with a description in a text file should be uploaded to the <u>Peergrade website</u>, no later than Tuesday February 15<sup>th</sup>, 08:30. You will receive instructions on how to submit, at the classroom session Week 6 (Feb.5th).