# Assignment 2 (mandatory)
# Searching Shakespeare's complete works

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Algorithms & Data Structures, Spring 2019

We would like the words of Shakespeare's complete works, saved in a Symbol table. The *words* should be the *keys* of the symbol table, and the *their number of occurrences* should be the *values*. For example:

"`to be or not to be, that is the question`"

would be saved as: $\{(\text{to} \to 2), (\text{be} \to 2), (\text{or} \to 1), (\text{not} \to 1), (\text{that} \to 1), (\text{is} \to 1), (\text{the} \to 1), (\text{question} \to 1)\}$. You will again find the complete works of Shakespeare – rather impressive for his time – in the GitHub course repository, under The Weeklies.

Work with your groups to create a Java program, that supports the following implementations of Symbol tables:

1. `LinkedSymbolTable` using a linked list-based Symbol table.
2. `ArraySymbolTable` using an array-based Symbol table.
   - Use your `FlexibleArray` class, from classroom exercises
3. `HashedSymbolTable` using a hashing strategy.
4. `BalancedTreeSymbolTable` using a balaced tree as 2-3 or red-black.
5. Measure the time used for each algorithm.

NB: we will spread the topics of symbol tables and searching over two weeks. Consequently, you may want to implement only part of the code, fx items 1 & 2, this week, and pick up on items 3 & 4 next week. But do the timing, item 5, in both weeks – of course.

The solution accompanied with a description in a text file should be uploaded to the Peergrade website, no later than Tuesday February 26th, 08:30. Please ask if you are in doubt about this.