

Assumptions

1. Every sentence is smaller than 1024 characters (buffer size limitation, which can be easily changed)
2. Every sentence starts with a capital letter.

Complexity Analysis

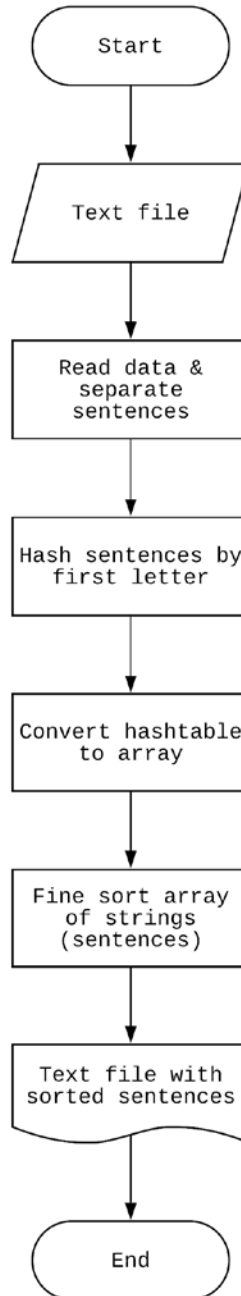
$O(n)$

$O(n)$

$O(n^2)$

$O(n)$

Flowchart diagram



Notes

non-standard file name can be given as an optional argument (lines 127-141)

data reading is performed in lines 145-194. Some implementation details are:

- sentences are identified by punctuation marks (e.g. ".", "?", "!", ",") in punctuation_check function (lines 71-103). The list of the punctuation markers might need to be updated/improved;
- the sentences are hashed in hash_sentence function (lines 18-65). Hash table is implemented as an array of 26 elements with indices corresponding to alphabet letters from 'A' to 'Z'. Collisions are resolved by chaining

This step is required only for fine sorting (lines 198-226)

Fine sorting fragment of the code can be easily disabled if fine sorting is not required (lines 230-244)

The output file is written as a separate file (lines 248-259)