**COS 221                                                                                                                                 Spring 2015**

**Homework 3**

Develop a **word-counter program**:

The program has to count the frequency of appearing every word in a text.

Input: a text (long string as a text file).

The program has to scan the input text to count how many times each word, which appeared in the text, is used.

You need to maintain two vectors:

1. Vectors of strings – holding each of the words
2. Vectors of integers – holding the frequency of appearing of the word.

Read the text, distinguish a word (separated by blank or a punctuation symbol); check whether the word is already in your list – if it is there – ignore and go further; if it is not there – fill the next slot of the first vector with this word; apply one of the algorithms (KMP or BM) to count how many times the word appears in the text. Fill the second vector with this number. Do this until the end of the text.

Implement either KMP or BM algorithms according to the rule:

* Students with even ID number has to apply KMP, and
* Students with odd ID number - BM.

Output the two vectors in a table:

|  |  |
| --- | --- |
| word | count |
|  |  |
|  |  |

**Delivery:**

**Electronic version: all program files, including executable. Store all files in an archive and upload to elearn.**

**Hard copy: the source code of all program components**