

24/12/2017

BLM5230
Advanced Programming Techniques
Assignment - 3
(Due 08/01/2018 – 23:59h)

In this assignment, the student is asked to implement a text analyzer. The program should be written in C language.

- A specific file, named **filelist.txt**, would store file names, which need to be analyzed. The user should generate this file via a text editor.
- The program would open the **filelist.txt** and open/process the related files based on the filenames in the filelist.txt.
- Each file should consist of paragraphs, sentences and words.
- The program would calculate the number of paragraphs, the number of sentences and the number of words for each file and would record it into a user-defined data structure.
- After completing the recording process, the program would save all the information, which were recorded in the structure, into a file, which should be readable when opened by a text editor.

USEFUL INFORMATION

- A newline character separates two paragraphs.
- A sentence ends with a dot.
- A character array between two spaces counted as one word.
- Non-alphabetical words consist of numbers, hyphens, etc.

Example: I have been playing, this (game) since 1998. I had 2-3 injuries during this time.

Result : **Paragraph:1, Sentence: 2, Word: 15, Non-alphabetical words: 2**

Your algorithm should give the outputs specified below:

- The number of paragraphs,
- The number of sentences,
- The number of words,
- The number of non-alphabetical words such as 1989, 1, 22, %22, 1985-1986 etc. , for each file listed in **filelist.txt**.
- A file including the aforementioned information.

The program should include a menu for the given tasks.
You should define some structures to save related information jointly.

You should also report;

- The list of your functions with the parameters.
- Test results

Note: Use reasonable variable names.

ATTENTION

Do not forget to read the document “ASSIGNMENT RULES”, located in my website.

EXAMPLE

Filelist.txt

file1
file2
file3
file4

file1

The Computer Science and Engineering Department, initially founded as Electronic Computation Division in 1970, continued its activities as a part of Engineering Faculty between 1983 and 1992, following the reorganization in 1992 the department became a part of Faculty of Electrical Engineering and Electronics.

Computer Engineering Program is currently operates with full time 3 Professors, 2 Associate Professor, 11 Assistant Professors, 1 Instructor, 24 Research Assistants and part time 1 Professor, 1 Assistant Professor. In Computer Engineering Program there are also courses given by academic staff from other departments of the University.

file2

The Computer Science and Engineering Department, initially founded as Electronic Computation Division in 1970, continued its activities as a part of Engineering Faculty between 1983 and 1992, following the reorganization in 1992 the department became a part of Faculty of Electrical Engineering and Electronics. Computer Engineering Program is currently operates with full time 3 Professor, 1 Associate Professor, 10 Assistant

Professor, 1 Instructor, 20 Research Assistants and part time 1 Professor, 1 Assistant Professor. In Computer Science Program there are also courses given by academic staff from other departments of the University.

Computer Science teaching plan contains 53 courses which adds up to 156 credits. The percentages of the courses established as %26 Basic Sciences, %51 Occupational Courses and %23 Other Courses to provide a balanced distribution. The credits of the optional engineering courses are determined as %14 to allow students to gain expertise on the subjects they are interested in.

file3

In our department which aims to graduate engineers to international arena, a compulsory English preparation class has been started beginning from 1985-1986 which continues successfully since. In addition to the preparation class, English courses given in various ways take %10 of the all credits rest of the graduate study; also some of the occupational courses are taught in English.

file4

Computer Science teaching plan contains 53 courses, which adds up to 156 credits. The percentages of the courses established as %26 Basic Sciences, %51 Occupational Courses and %23 Other Courses to provide a balanced distribution. The credits of the optional engineering courses are determined as %14 to allow students to gain expertise on the subjects they are interested in.

In our department which aims to graduate engineers to international arena, a compulsory English preparation class has been started beginning from 1985-1986 which continues successfully since. In addition to the preparation class, English courses given in various ways take %10 of the all credits rest of the graduate study, also some of the occupational courses are taught in English.

The program applied in Computer Engineering is prepared by taking the opinion of internal allies (Teaching Staff, Students and Management) and external allies (Graduates, Associations, Private Sector, Government, Civil Community Organizations, Families) then filtered by science and technology. The system is supported with feedback mechanisms (Student Questioners, Evaluations of Teaching Staff, Evaluations of other external allies about outputs and goals) to respond variable features quickly, to provide continuity by renewing itself and to reach its goals.

Output File

Filename:file1
Paragraph: 2
Sentences: 2
Words:
Non-Alphabetical Words:

Filename:file2
Paragraph:
Sentences:
Words:
Non-Alphabetical Words:

-
-
-

Submission

- Assignments submitted after submission deadline (at most 2 days late) will be evaluated over 50. Do not send any e-mail 3 days after submission deadline.
- Collaboration on any assignment is strictly prohibited. Submitted assignments are automatically checked for similarities. Infractions will be given a zero for the entire assignment.
- Assignments **MUST** be submitted by e-mail. Every student must send his/her assignment to the following e-mail address.

amac@yildiz.edu.tr

- Subject of the e-mail **MUST** contain course name, Assignment # and student name and surname in specified format written below;

Example Subject :

BLM5230_Assignment_1_Name_Surname

Content

1. An archive (zip, rar) file which contains only ONE report file and ONE or MORE source files. The question number indicates the number of source files.
2. The report file should include
 - 1. **Question** - A brief description for the question
 - 2. **Solution** - An explanation for the solution
 - 3. **Analysis** - Numerous (at least 5, if necessary more) screenshots to show that your program runs correctly
 - 4. **Source Code** - The source code (use Notepad++ or the equivalent to have colored codes)

About Source Code

The source file must include **comments** which explain the code

The code should be **well-designed**.

3. The name of the submitted files must contain student name and surname.

Example: **zip/rar filename :** **Name_Surname.rar**

The zip/rar should contain

pdf filename: Name_Surname.pdf

Source filename: Name_Surname.c

// No separate jpg, bmp, etc. files

EXAMPLE CODE-I

```
/**
@file
BBG2 spring2013 assignment 1.

A program that checks whether the number
is even or odd.
It prints 1 for odd numbers, 0 for even numbers

@author
```

Name: Bart Simpson
Student no: 08011001
Date: 11/02/2013
E-Mail: bart_simpson@gmail.com
Compiler used: GCC
IDE: CodeBlocks
Operating System: Windows 7
*/

```
#include<stdio.h>
```

```
/**  
    Main function. Reads the number and prints the result  
*/
```

```
int main() {  
    int number,result;  
    // reading the number:  
    scanf("%d",&number);  
    // checking whether the number is odd or even:  
    if((number%2)==0) {  
        result=0;  
    }  
    else {  
        result=1;  
    }  
    // output the result:  
    printf("%d\n",result);  
    return 0;  
}
```