

BLM1011 Introduction to Computer Science

Assignment - III

Due 17/12/2020 –23:59

Instructor: Assist. Prof. M. Amaç GÜVENSAN

Algorithm 1: Design an algorithm

- which sorts the given words alphabetically within a matrix.
- which finds the start position of each letter and saves it into an array.
- which searches the given word within the sorted matrix exploiting the starting positions of the letters.

Input (should be given by the user) :

N: Number of words

dictionary: read a word into a row of a matrix

!!You should use gets()/puts() functions to read/write the text data in your C code.

!!You should use array of characters to save the given text. Each given text terminates with a NULL character in C.

word: The word which should be searched within the dictionary(matrix)

Example 1:

N= 5

Dictionary:

L	I	O	N			
F	I	S	H			
T	I	G	E	R		
S	N	A	K	E		
S	E	A	L	I	O	N

Word: SNAKE

Output:

Sorted Dictionary

F	I	S	H			
L	I	O	N			
S	E	A	L	I	O	N
S	N	A	K	E		
T	I	G	E	R		

Starting Positions of Letters

$$\mathbf{Z}$$

				1					2					3	5								
--	--	--	--	---	--	--	--	--	---	--	--	--	--	---	---	--	--	--	--	--	--	--	--

Number of Search Steps: 2

N=9

A	I	S	L	E					
A	N	D							
A	D	V	E	R	B				
E	Y	E							
E	A	S	Y						
B	O	L	D						
B	O	Y							
C	O	L	D						
C	A	M	E	R	A				

Output:

A	D	V	E	R	B				
A	I	S	L	E					
A	N	D							
B	O	L	D						
B	O	Y							
C	A	M	E	R	A				
C	O	L	D						
E	A	S	Y						
E	Y	E							

$$\mathbf{Z}$$
[illegible]

Number of Search Steps: 1

SUBMISSION

1. Assignments submitted after submission deadline will not be evaluated.
2. Collaboration on any assignment is strictly prohibited. Submitted assignments are automatically checked for similarities. Infractions will be given a zero for the entire assignment.
3. Assignments **MUST** be submitted via online.yildiz.edu.tr
4. You should submit your .rar or .zip file (**One compressed file consisting of 2 files**) with the name of your studentid as given below.

Example File Name : [18011001.rar](#) or [18011001.zip](#)

(should include [18011001.pdf](#) and [18011001.c](#))

Content

- An PDF file which contains
 - a. **Flowchart** - Flowchart for Algorithm 1. (You can draw your flowchart either by your hand or by computer. Just work clean !!!)
 - b. **Source code** - Just copy the source code into the PDF.
 - c. **Analysis** - should be done for Algorithm 1 for each possible different cases
- A Source Code

Do not forget to prepare a cover page which should include

- Course Name
- Course Group
- Instructor Name
- Assignment Number
- Delivery Date of the Assignment

- Student Id
- Student Name and Surname
- Signature

ATTENTION

- **Assignments that don't comply with submission rules will NOT be evaluated. "NO EXCEPTION"**