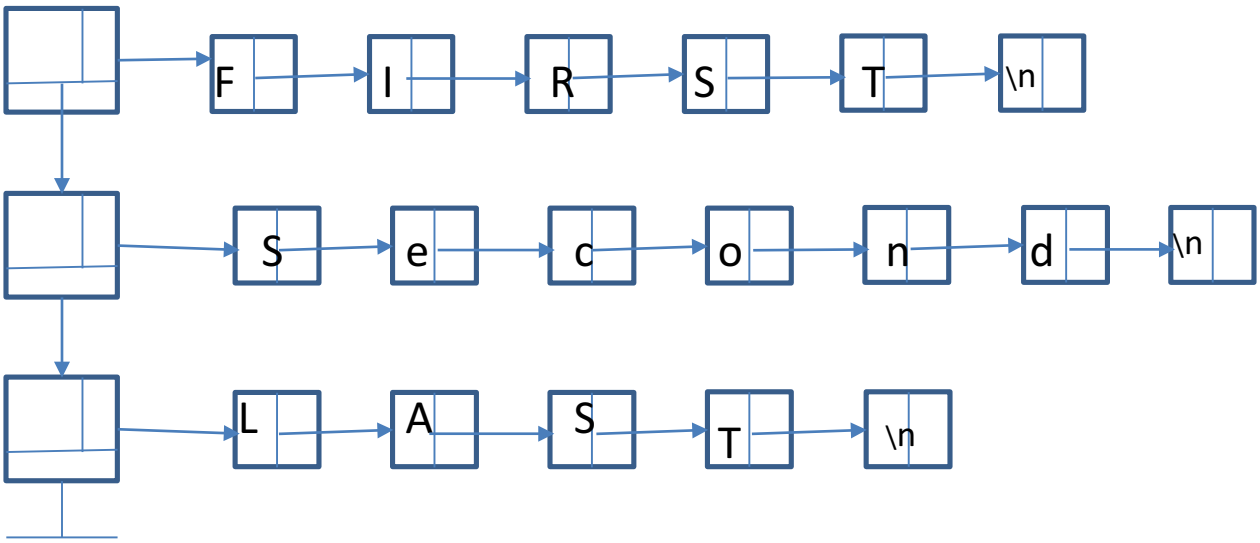
Lab Test II: Regular Test Assignment

[Date: 05.05.2020 *Time: 2:30 PM – 5:30 PM, Max. Marks: 30*]

Write your Name, Roll Number, Address, Test-II-R (identity of this problem) in a header. Download the attendance form, fill it up and submit within 2:45 PM. Without submission of the attendance form, your program will not be evaluated and you will be marked absent.

Problem statement (write C-program):
Submit/upload your (i) C program, and (ii) output file(s).

Consider a linked list, where each node points to a linked list of characters storing a line



of a text document, where i-th linked list stores i-th line. A schematic diagram of the storage of three lines are shown in the above. We refer to this data structure as “text-buffer”. Note that i=0 for the first line. Likewise, for the n-th line i=n-1. Similarly the character in a line represented by a linked list is counted from 1.

Implement the following functions with the parameters mentioned. You may also pass additional parameters if required:

(i) Read_File: It reads a file (file name passed as a parameter) in the form of a text document and stores its lines in the above data structure, and closes the file.
(ii) Write_File: It writes the content of the text-buffer in a file (file name passed as a parameter).
(iii) Display_Text: Displays the text stored in the text-buffer.
(iv) Insert_line: It inserts a line after the i th line (both passed as parameter). If i=0, it inserts before the 1st line.
(v) Delete_line: Deletes i-th line (i passed as a parameter).
(vi) Insert_char: Insert a character at i-th line before the m-th positon (The character, i and m passed as parameters).
(vii) Delete_char: Delete a character at i-th line at m-th position (i and m passed as parameters).
(viii) Free_Buffer: It releases the memory of the text-buffer.

For every function, for any exception, it returns 0 otherwise for successful operation it returns 1.

Write a main program which performs above operations interactively by using those above functions.

Perform the following operations and provide the results of your operations in an output file. In addition, the text file generated from your program (as instructed below) should be also submitted.

(i) Read the file “Poem.txt”.
(ii) Display the content of the text-buffer.
(iii) Insert the following line in the beginning.
“Rabindranath Tagore”.
(iv) Delete 7th Character of the 7th line.
(v) Insert ‘t’ before 6th character of the 7th line.
(vi) Delete 10th line.
(vii) Insert in the beginning “Where the mind is without fear”
(viii) Delete 10th line.
(ix) Display the text buffer.
(x) Write the text buffer in a file named ‘Poem_modified.txt”.

Note: Your program may be evaluated with different sets of data.