

CST 370

Programming Assignment (Linked List)

1. Download the sample code of a linked list class (**LinkedList.h**, **LinkedList.cpp** and **Sample_LinkedList_Tester.cpp**) from **iLearn**. Make a project called **homework** with the three files.

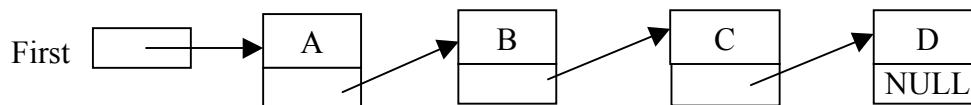
In this assignment, your program should ask a user to enter a text string and display the number of substrings that start with **A** and end with **B**. In the program, you can assume that the user always enters a text string with upper case characters. The following presents a sample run of the program.

```
Enter a string: CABAAXBYA
Substring 1: AB
Substring 2: ABAAXB
Substring 3: AAXB
Substring 4: AXB
Total 4 substrings
```

This is another sample run:

```
Enter a string: XYZBCCDAGED
Total 0 substrings
```

In the assignment, you should store the input character(s) in a linked list. For example, if your entered an input text **ABCD**, your linked list should store it as below:



To run the program, you should also develop the test driver program, **linked_list_tester.cpp**. A sample file is provided to you on iLearn.

Grading

I will download your code on my computer and execute it. If your code does not compile, you may lose more than 50% of your points (based on my discretion). If your code compiles, but still produces incorrect results you may still lose more than 30% of your points (based on my discretion).

You are expected to provide code which will execute on Visual Studio and display the output.

Your code should have the following characteristics for you to get full points on the assignment

1. Compile without error.
2. Produce correct output.
3. Good programming structure.
4. Comments. (Title, Abstract, Author, ID, and Date are mandatory.)
5. Meaningful and related variable names.

What to turn in?

Submit your source programs (**LinkedList.h, LinkedList.cpp and linked_list_tester.cpp**) and **'HomeworkSubmission_yourlastname.pdf'** as a single zipped file on iLearn.

If you do not submit the above mentioned documents in the format specified your assignment will not be graded.

Homework Submission_yourlastname.pdf

For each homework problem, you are expected to submit screenshots of the results obtained from running your code. You should also explain what each screenshot means and why the result on the screenshot is correct.

This link explains how to take screenshots in Mac and Windows.
<http://www.take-a-screenshot.org/>