

**CmpE102**  
**Spring 2016**  
**Programming Assignment 6**

**Due Date:** 11/12 May May

**Goal:** HLL/assembly interface.

**Instructions:**

The problem we are going to examine is finding a substring in a text string. However the processing will be divided between a C program and an assembly language procedure. (You may use C++ if you think you know what you're doing.)

You should compile the C program with **gcc** because we are already using it to do the linking step.

Your C program should read in an array of text, 1000 characters or more. (You can grab any text off the net.) I suggest that you store it as a string. The method to accomplish this is up to you.

Your C program should then prompt the user for a single word. It doesn't need to be more than 10 characters. Again I recommend storing it as a string.

The C program then calls the assembly language function, passing it a pointer to the text array and a pointer to the word string.

The assembly function searches the text array for any occurrence of the word. Every time it finds one, it should print out the position in the text array. It may appear more than one time.

When the search is complete, the assembly function should return the number of occurrences of the word in the array. The C program should then print out this value.

Make sure the test example is one where the word appears multiple times.