

# APS106: FUNDAMENTALS OF COMPUTER PROGRAMMING

## LAB 9 - THURSDAY, APRIL 3, 12:00 - 2:00

### OBJECTIVE:

At this stage in the course, you've had lots of experience with looping through arrays using array notation (`[]`). This lab takes this a step further, and asks that you do much the same thing with pointer notation, and pointer arithmetic.

**The only array notation that should appear in your code this week is in the initial declarations of arrays and strings.**

**The only libraries you may include are `stdio.h` and `stdlib.h`.**

### PROBLEM:

Write a program that deletes a word from a string of words, `A`, each separated by single space, at a specified word position. Your program should contain two functions: `int main()` and `int delete_word(char *A, int pos)`. From `main`, your program asks a user for two keyboard inputs: (i) a string `A` of less than 80 characters, (ii) an integer `pos`. Output the initial string `A` and `pos`. Then pass these two inputs to `delete_word`, that modifies `A` by deleting the word at position `pos`. The function should NOT allocate any local arrays. The function `delete_word` should immediately return -1 if the specified `pos` is greater than the number of words in `A`. Otherwise, the function should return the length of the modified `A`. Finally, `main` should output the appropriate results.

For example, input might look like this:

```
enter a string A (< 80 chars): Canada is a very large country
enter the position: 4
```

and output would look like this:

```
original string A: Canada is a very large country
modified string A: Canada is a large country
length of the modified A: 25
```

### NOTES:

You will want to declare `A[81]` at the top of `main`, to accommodate the possibility that one can input an 80-character string `A`. It is implicitly assumed that there is only a single space between words and there is no period at the end.

Ordinarily, you would use the `strlen()` function to find the length of a string, but that's only available through `string.h`. Recognize that you can calculate the lengths yourself, via a simple `for` or `while` loop.