**Take-Home Quiz 5 (15 pts) – Arrays**

Using Canvas <https://canvas.wsu.edu/>, please submit your solution to the correct quiz folder. Your solution should be a .pdf file with the name <your last name>\_quiz6.pdf and uploaded. To upload your solution, please navigate to your correct Canvas ***lab*** course space. Select the “Assignments” link in the main left menu bar. Navigate to the correct quiz submission folder. Click the “Start Assignment” button. Click the “Upload File” button. Choose the appropriate .pdf file with your solution. Finally, click the “Submit Assignment” button.

1. (7 pts) Write a function called count\_alphas() that accepts an array of *characters* and the *number* of items in the array as parameters, and returns the number of *alphabetic* characters in the array. For example, if the array contains [‘C’, ‘p’, ‘t’, ‘S’, ‘1’, ‘2’, ‘1’], then the function returns 4. Note: if the array does not contain any alphabetic characters, then the function returns 0. You must consider both lowercase and uppercase alphabetic (a – z) characters. You may also use functions in <ctype.h>. Hint: isalpha ().

int count\_alphas(char array [], int num\_items) {

int count = 0;

for (int i = 0; i < num\_items; i++) {

if (isalpha(array[i]) != 0) {

count++;

}

}

return count;

}

1. (9 pts) Write a function called remove\_whitespace() that accepts an array of *characters* and the *number* of items in the array as parameters, *removes* all *whitespace* (' ') characters from the array, and returns the *number* of whitespace characters removed. For example, if the array contains ['C', 'p', 't', 'S', ' ', '1', '2', '1', ' ', 'i', 's', ' ', 'f', 'u', 'n'], then the function should remove the whitespace characters. The function must remove the whitespace characters by shifting all characters to the right of each whitespace character left by one spot in the array. This will overwrite the whitespace characters, resulting in: ['C', 'p', 't', 'S', '1', '2', '1', 'i', 's', 'f', 'u', 'n']. In this case, the function returns 3. Note: if the array does not contain any whitespace characters, then the array is unchanged and the function returns 0.

int remove\_whitespace(char array [], int num\_items) {

   int shift = 0;

   int j = 0;

   for (int i = 0; i < num\_items; i++) {

       if (array[i + shift] == ' ') {

           shift++;

       }

       j = i + shift;

       array[i] = array[j];

       printf("\n %c", array[i]);

   }

   printf("Modified Array: %s\n", array);

   return shift;

}