CptS 121 – Program Design and Development November 16, 2020

Your Name: \_\_\_\_\_\_\_\_\_\_\_Jake Darrow\_\_\_\_\_ TA’s Name: \_\_\_\_\_\_Andrew Fritz\_\_\_\_\_\_\_\_\_ ID#: \_\_\_\_\_\_\_\_\_\_11588556\_\_\_\_\_\_\_\_\_ Section #: \_\_\_\_\_\_\_\_\_\_\_\_7101\_\_\_\_\_\_\_\_\_\_\_

**Take-Home Quiz 8 (15 pts) – Recursion & More Pointers**

**NOTE: Please submit your hard copy solution in lab this week**

1. (7 pts) Write a function called recursive\_string\_length () that accepts a *pointer* to a string as a parameter, recursively *counts* the number of characters in the string (excluding the null character), and returns the *integer* count. For example, the count for “CptS121” is 7. You may not use any functions from <string.h>.

int recursive\_string\_length(char\* str)

{

int counter = 0;

if (\*str)

{

if (\*str != " ")

counter += (1 + recursive\_string\_length(str + 1));

else

counter += recursive\_string\_length(str + 1);

}

else

return counter - 1;

return counter;

}



1. (8 pts) Write a function recursive\_string\_copy() which accepts a *pointer* to a source string and a *pointer* to a destination string as parameters, recursively *copies* from the source to destination (including the null character), and returns nothing. You may not use any functions from <string.h>. Hint: each recursive step requires that you pass in the address of the next character to copy from the source and the address of the next destination character location.

void recursive\_string\_copy(char \*source, char \*destination)

{

if (\*source)

{

\*destination = \*source;

recursive\_string\_copy(source + 1, destination + 1);

}

}

Instructor: Andrew S. O’Fallon