**Take-Home Quiz 7 (15 pts) – Arrays and Strings**

Using Blackboard Learn <https://learn.wsu.edu/webapps/login/> submit your quiz. You will submit your assignment in the ***lab*** Blackboard space. Under the "Content" link navigate to the "Quiz Submissions" folder and upload your solution to the appropriate “Quiz” space. You must upload your solution, through an attachment, as <your last name>\_quiz7.pdf by the due date and time.

1. (12 pts) Write a function called reverse\_rows(), which accepts as parameters: a two-dimensional array of integers, the number of rows, and the number of columns in the array. Assume that the number of columns cannot exceed 100. The function iterates through each row and reverses the integers in each row. The function does not directly return a value. For example, given the following 2D array:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **6** | **1** | **7** | **4** | **2** |
| **7** | **5** | **2** | **3** | **8** |
| **9** | **9** | **1** | **1** | **5** |

The function will produce the following array:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2** | **4** | **7** | **1** | **6** |
| **8** | **3** | **2** | **5** | **7** |
| **5** | **1** | **1** | **9** | **9** |

void reverse\_rows ( int arr[ ][100], int num\_rows, int num\_cols)

{

int i, j;

int tempt;

for ( i = 0; i < num\_rows; i++ )

{

for ( j = 0; j < num\_cols / 2; j++ )

{

tempt = arr[ i ][ j ];

arr[ i ][ j ] = arr[ i ] [ num\_cols - 1 – j ];

arr[ i ][ num\_cols - 1 – j ] = tempt;

}

}

//Display the array to the screen

for ( i = 0; i < num\_rows; i++ )

{

for ( j = 0; j < num\_cols; j++ )

{

printf("arr[%d][%d]: %d ", i, j, arr[ i ][ j ]);

}

printf("\n");

}

}

1. (3 pts) What is a C string? Explain.

A string is a sequence of characters terminated by the null character (‘\0’). The characters are letters, digits, or special characters. A string may always be represented by a character array, but a character array is not always a string.

For example: char name[20] = {‘N’, ‘h’, ‘a’, ‘t’, ‘ ‘, ‘D’, ‘u’, ‘y’, ‘\0’};

The name has 8 characters and a null character. 11 remaining characters after null character are ignored.

name[ ] = “Nhat Duy”.