**Take-Home Quiz 6 (15 pts) – Arrays and Strings**

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. (10 pts) Write a function called reverse\_matrix(), 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 column and reverses the elements as shown below. 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** |
| **1** | **2** | **3** | **4** | **5** |

The function will produce the following array:

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

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

int temp = 0;

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

for (int j = 0; j < num\_rows/2; j++) {

temp = arr\_int[i][j];

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

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

}

}

}

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

A C string is an array of characters ended by the null character ‘\0’

1. (3 pts) *Declare* a C string and *initialize* it with the string “CptS 121”.

char string [9] = {‘C’, ‘p, ‘t’, ‘S’, ‘ ‘, ‘1’, ‘2’, ‘1’, ‘\0’};