

HW# 6
Due: 10.00pm August 28, 2021

Directions: Submit print out of your code and screenshots of your tests.

Note: Late homework will not be accepted. Plagiarism will not be tolerated.

1) Write a C program that calculates the sum of the following series where x and n is provided as user input: $1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots + \frac{x^n}{n!}$

A function to compute factorial of an integer is given in the lecture notes.

2) Write a C program that finds the smallest number in an array of integers. The number of elements in the array is 10. The program then swaps the smallest element of the array with the first element of the array. [Hint: Use a for loop to find the smallest number]

3) Write a C program that computes the average of an array of floats. Then the program prints out the numbers in the array that are smaller than the average.

4) Write a C program to read elements of a matrix in a 2D array and then swap the elements of the diagonal with the last row. The dimension of the matrix is 5 x 5.

5) Write a C program to read elements of a matrix in a 2D array and then print out the number of zeros in the matrix. The dimension of the matrix is 5 x 5.

6) Write a C program to read elements of a matrix in a 2D array and then print out the sum of the diagonal. The dimension of the matrix is 5 x 5.