**Lab 2**

**CS233U**

Complete the program described below. You are required to use pointer notation instead of array notation for the functions and you must use dynamic memory allocation for your array. You will need to include a sort function because the median function needs a sorted array, and you have no guarantee that the data will be entered in any kind of order.

Plans should include pseudocode for your functions, including main.

Be sure to include copies of the test runs of your program as comments with the program.

As always, upload your completed project in Blackboard along with the plans.

**Program description**

Write a program that can be used to gather statistical data about the number of movies college students see in a month. The program should perform the following steps:

1. Ask the user how many students were surveyed. An array of integers with this many elements should then be dynamically allocated.
2. Allow the user to enter the number of movies each student saw into the array.
3. Calculate and display the average, median, and mode of the values entered. Use separate functions for each using pointer notation at all times, rather than array notation.
   1. Average – The function should accept the array of integers and the number of elements and return the calculated average.
   2. Median – the median is the middle value of a set of values. If the set has an even number, the median is calculated as the average of the two middle values. This function should accept the array of integers, the number of elements and should return the median value.
   3. Mode – the value that occurs most often or with the greatest frequency. The function should accept the array of integers and the number of elements. It should return either the mode, or if no number occurs more than once, a -1.