

Tutorial #6

CS 2882 – Object Oriented Programming using C++

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Scope: Familiarization with pointers for dynamic memory allocation

- 1) Write a program to statistically analyze a given set of data in order to calculate the maximum, minimum, average and the median. The number of data elements is determined by the user and it is not predictable.
 - The program should first take the number of data points from the user.
 - Once the number of data points is given, get values for each data point.
 - Calculate the maximum, minimum, average, and the median in functions named Max, Min, Average, and Median, respectively. Each function should return the calculated value.
 - Print the results on screen with appropriate messages.
 - The program should repeat any number of times if the user wants to repeat it.

Hint: Create a dynamic array to store the user entered values.

You may use the following insertion sort algorithm to sort the array.

```
For i ← 1 to length (Array)

    k ← i

    While k > 0 and Array[k-1] > Array[k]

        Swap Array[k-1] and Array[k]

        k ← k-1

    End of while

End of for
```